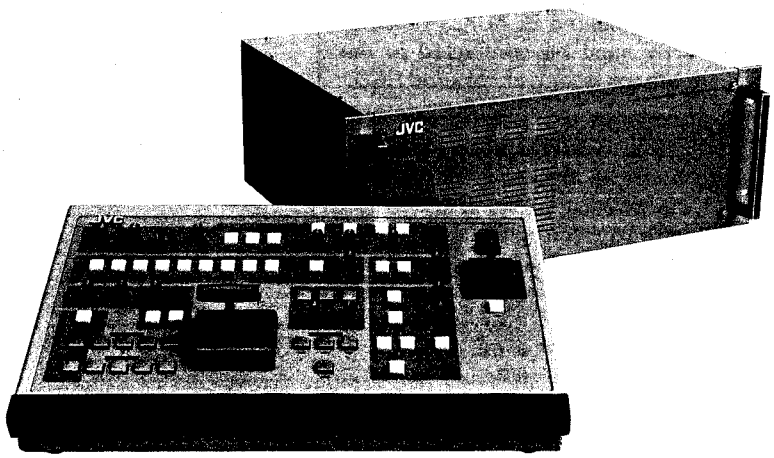
JVC | Instructions

Y/C DIGITAL EFFECTS GENERATOR

KM-D600

BEDIENUNGSANLEITUNG: Y/C-DIGITAL-TRICKMISCHER KM-D600
MANUEL D'INSTRUCTIONS: GENERATEUR D'EFFETS NUMERIQUES Y/C KM-D600



The instructions are given in three languages:
English from page 1 to 44
German from page 45 to 88
French from page 89 to 132

Bedienungsanleitung in drei Sprachen:
Englisch: Seite 1 bis 44
Deutsch: Seite 45 bis 88
Französische: 89 bis 132

Les explications techniques sont données en trois langues:
Anglais, page 1 à 44
Allemand, page 45 à 88
Français, page 89 à 132

WARNING

Due to disign modifications, the servicing procedures and data given in this manual are subject to possible change without prior notice.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

AVERTISSMENT:
POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

WARNING – THIS APPLIANCE MUST BE EARTHED
IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows. The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Warning Notice
FOR YOUR SAFETY

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively grounded through the normal household wiring.
Extension cords used with the equipment must be three core and be correctly wired to provide connection to earth ground. Wrongly wired extension cords are a major cause of fatalities.
The fact that the equipment operates satisfactorily does not imply that the power point is properly grounded and that the installation is completely safe. For your safety, if in any doubt about the correct grounding of the power point, consult a qualified electrician.

Notes:

- **ADV SYNC TIMING**
  The KM-D600 employs dual channel TBC with field memory.
  The output timing of ADV SYNC for VTR servo lock and BB are the same.
  For VTRs used as a source, please connect **ADV SYNC** to VTR **EXT SYNC** input and select **EXT SYNC** position of the VTR SYNC selector.

- **DIGITAL EFFECTS**
  It is possible to apply digital effects such as MOSAIC, NEGA, STROBE and PAINT to the PRESET/KEY bus signal while switching is in progress.
  However, the effect will be lost when switching is completed.
  If you do not want to loose the effects, it is recommended that these effects be used together with keying effects as follows.
  Select **KEY** and **LUM**, then set **SLICE** knob to fully clockwise position.

- **SOURCE TAPE**
  It is recommended to use source tape which was recorded on VTRs with frame servo ON, otherwise PROGRAM bus and PRESET/KEY bus pictures may not coincide in the vertical direction.

Thank you for purchasing the JVC KM-D600 Y/C Digital Effects Generator.

To utilize this product to its fullest, please read this instruction booklet carefully and entirely for the best understanding of its capabilities and operation.

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The Y/C signal referred to in this instruction manual is Y/C443 unless otherwise specified.

FEATURES

- Built-in dual-channel TBC
- Digital effects (freeze, strobe, mosaic, slide, paint, negative, and compression)
- Y/C and composite signals can be input.
- Y = 8 bits, C = 8 bits 4:1:1 component process
- DOC and ADVANCED SYNC for VTR
- Built-in full-field color bars generator
- Auto and manual transition
- Soft wipe
- Positioner wipe
- GPI control for connection with VTR controller
- Built-in RGB chroma-key
- Built-in color matte generator
- Fill video input terminal for DSK
- DSK masking function
- Y, C, and black levels can be preset.

PRECAUTIONS

Safety Precautions

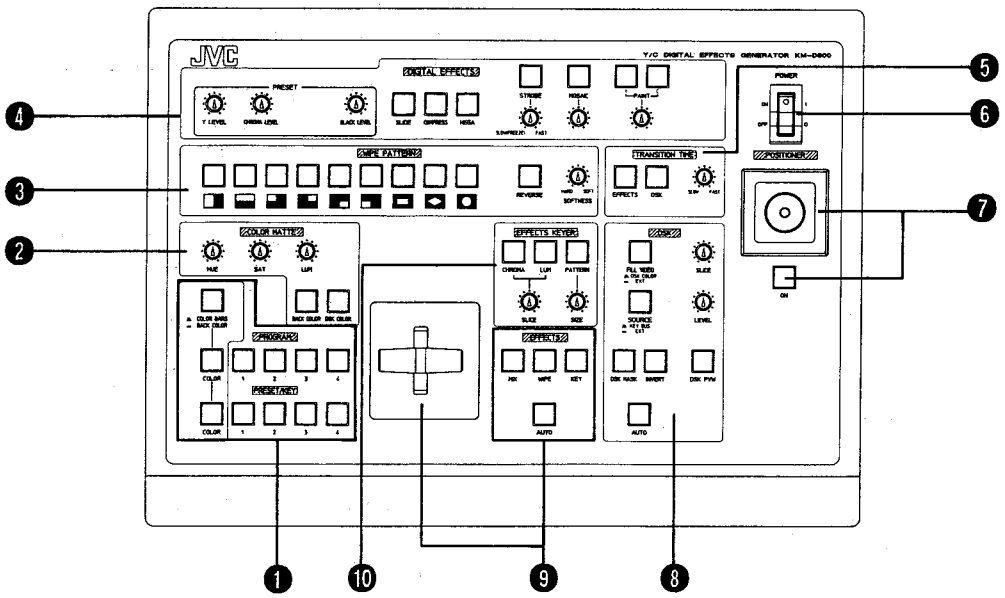
- Do not modify the unit or operate it with the cover panel removed.
- Do not allow inflammable objects, water or metallic objects to get inside the unit as these will cause damage or malfunction.
- When not to be used for a long period of time, be sure to disconnect the power cord from the power outlet.
- When there is any abnormality (noise, smell, smoke, etc.) with the unit, immediately switch off, disconnect the power cord from the power outlet, and contact your nearest JVC-authorized service agent.

Handling Precautions

- For an extended service life, avoid using the unit in a place subject to extreme temperatures, high humidity, strong vibrations, excessive dust, or in a place near the source of noise.
- Avoid strong vibrations and shocks when installing or carrying.
- Do not apply strong force to the fader lever or handle it violently.
- The standard positioning of the control panel is horizontal. Never lean it by more than 45° from the horizontal.
- The video output signal (component) of the KM-D600 conforms to the specifications of S-VHS video recorders.
- When the power is switched on, the setting of the fader lever corresponds to that obtained when it is pushed to either the top or bottom position, regardless of its physical position. Before the power is switched on, the fader lever should be pushed all the way up or down.
- When the power is switched off even for a moment, the settings of all the controls are cancelled and reset to their original (settings obtained when the power is switched on). If the unit should be used where power supply conditions are not stable, it is recommended that a backup power supply be used.
- A cooling fan is provided in the rear panel. When mounting the unit in a rack, etc., ensure sufficient ventilation space at the rear.

CONTROLS, CONNECTORS AND INDICATORS

CONTROL UNIT: CONTROL PANEL



❶ Cross-point select buttons

To select video sources for processing. One video source can be selected for each bus from four input video signals (1 - 4) and internally-generated color signals (background color or color bars).

- **[PROGRAM 1 -4, COLOR]** Program bus select buttons
  To select the signal on the PROGRAM bus.
- **[PRESET/KEY 1 - 4, COLOR]** Preset/Key bus select buttons
  To select the signal on the PRESET bus. The selected signal is standing by to be output to the PROGRAM bus. Use the EFFECTS buttons and fader lever ❾ to feed the selected signal to the PROGRAM bus. These buttons are also used as KEY source select buttons for keying with the EFFECTS KEYER buttons ❿ and DSK buttons ❽.
- **[COLOR BARS/BACK COLOR]** Color signal select buttons
  To select the mode of the color signals used on the two buses (PROGRAM and PRESET/KEY). When the built-in color bars signal is selected, the button is lit, When the background color signal set by the COLOR MATTE controls ❷ is selected, the light will go out.

Information

An Auto Freeze function which automatically freezes the last picture field whenever the video signal is interrupted is available through internal switching. For details, consult an authorized JVC service agent.

❷ [COLOR MATTE] Color signal setting controls

To set the hue, saturation and brightness of the two color signals (BACK COLOR and DSK COLOR).

- **[BACK COLOR]** Background color select button
  Press this button to set the background color signal used on the PROGRAM and PRESET/KEY buses.
- **[DSK COLOR]** Downstream keyer fill color select button
  Press this button to set the color signal used by the DSK controls ❽.
- **[HUE]** Hue control
- **[SAT]** Saturation (color density) control
- **[LUM]** Luminance (brightness) control

❸ [WIPE PATTERN] Wipe/compress pattern select buttons and controls

- **[◨ – ◘]** Pattern select buttons
  Press to select a pattern. Nine patterns are available and the pattern corresponding to each button is indicated beneath it. Wipe or compress movement is in the direction in which the white area increases.
- **[REVERSE]** Direction reverse button
  To reverse the wipe or compress movement in the direction in which the black area increases.
- **[SOFTNESS]** Softness control
  Controls the sharpness of the wipe pattern edges. When the control is turned all the way to the HARD position, the softness circuit is switched off. Turn it toward the SOFT position to increase the degree of softness.

Notes

- The following three patterns ◘ , ◘ , and ◘ cannot be used when the DIGITAL EFFECTS SLIDE button is used.
- The following two patterns ◘ and ◘ cannot be used when the *background effect* is controlled with the DIGITAL EFFECTS COMPRESS button.
- The SOFTNESS control has no effect on the edges produced with the slide and compress effects.

❹ **[DIGITAL EFFECTS] Digital effects setting controls**

- **[PRESET] Preset controls**
  To fine-adjust the picture quality of the video signal selected on the PRESET/KEY bus. The settings are held in memory independently for each input channel. Each control has a center click position. The video signal on the PROGRAM bus will be adjusted accordingly when the adjusted signal is selected as the PROGRAM bus output.
  Y LEVEL: Varies the brightness within the range of ± 3 dB. (The sync level remains constant.)
  CHROMA LEVEL: Varies the chroma level within the range of ± 3 dB.
  BLACK LEVEL: Varies the black level within the range of ± 10%.
- **[SLIDE]** Slide effect button
  Press when the *slide effect* is required. This button cannot be pressed together with the COMPRESS button.
- **[COMPRESS]** Compress effect button
  Press when the *compress effect* is required. This button cannot be pressed together with the SLIDE button.
- **[NEGA]** Image reversal button
  Press when a negative image is required. Simultaneously reverses the luminance and chroma signals.
- **[STROBE]** Stroboscopic effect select button and interval setting control
  Press the button to strobe the picture (the button lights when engaged). The freeze on/off interval can be set with the control under the button. To shorten the interval, turn it toward FAST; to increase the interval, turn it toward SLOW (FREEZE). Turn it all the way to SLOW (FREEZE) to engage the freeze mode.
- **[MOSAIC]** Mosaic effect button and texture control
  Press the button when the *mosaic effect* is required. Texture can be varied in 16 steps with the control under the button. Turning it clockwise makes the grid coarser.
- **[PAINT Y, C]** Paint effect buttons and texture control
  Used when the *paint effect* (creates an image which looks as if it has been colored with a paint brush) is required. The Y (luminance) and C (chroma) buttons can be turned on independently or simultaneously. Texture can be varied with the control under the buttons. Turning it clockwise makes the texture coarser.

Notes

- All buttons are on/off alternate buttons.
- The SLIDE and COMPRESS buttons cannot be engaged at the same time. With other buttons, any combination is possible and any number of effects can be used simultaneously.

❺ **[TRANSITION TIME] Effect transition time controls**
To set the automatic transition time of an effect selected from either group of effects.

- **[EFFECTS]** Main effects button
  Press this button to set the automatic transition time for an operation performed with the EFFECTS controls ❾.
- **[DSK]** DSK effects button
  Press this button to set the automatic transition time for an operation performed with the DSK controls ❽.
- **[SLOW-FAST]** Transition time control
  Varies the transition time from 0 to about 20 seconds. When turned all the way to FAST, the time is 0 second; that is, instant cutting takes place. At the center position, the time is approx. 4 seconds, and, when turned all the way to SLOW, time is about 20 seconds.

Note
When the digital compress effect is used as a background effect, possible transition time settings are from 0 to 1.2 seconds.

❻ **[POWER] Power switch**

❼ **[POSITIONER] Positioner on/off button and joystick control**
Used to shift the center position of a wipe/compress pattern, or to move a digitally compressed picture to the desired position.

- **[ON]** Positioner on/off button
  Press to ON (the button is lit or blinks) to activate the positioner.
- Joystick control
  When the button is lit or blinking, move the joystick to shift a selected pattern. This effect is possible with the following three patterns: ◘ , ◘ , and ◘ .
  When used with the *digital compress effect*, the ◨ and ⬓ patterns can also be moved.

❽ **[DSK] Downstream keyer buttons and controls**
Used to select the DSK mode and feed the selected effect to the PROGRAM bus output.

- **[FILL VIDEO]** Fill video signal select button
  Selects the fill video signal to be used in the *DSK effect*.
  DSK COLOR (button is lit): The color signal (DSK COLOR) selected and adjusted with the COLOR MATTE controls ❷serves as a fill video signal.
  EXT (button is not lit): The picture signal produced from R/G/B signals applied to the rear panel DSK R/G/B INPUT connectors ⓯ serves as a fill video signal.
- **[SOURCE]** DSK source select button
  Selects the video signal to serve as the DSK source.
  KEY BUS (button is lit): The luminance signal of the video signal selected on the PRESET/KEY bus ❶ serves as the DSK source.
  EXT (button is not lit): The luminance signal of the key signal applied to the rear panel DSK KEY INPUT connector ⓯ serves as the DSK source.

Information
It is also possible to use the signals applied to the DSK R/G/B INPUT connectors as a DSK source. This requires internal switching. If necessary, consult an authorized JVC service agent. A fee will be charged for this modification.

- **[DSK MASK]** Masking on/off button
  To mask the area where keying is not desired with a selected wipe pattern. The button is lit when ON.
- **[INVERT]** Key source invert button
  To invert the key source signal so that the darker portion of the luminance signal is used for keying. The button is lit when ON.
- **[SLICE]** DSK slice level control
  Varies the slice level of the DSK source signal.
- **[LEVEL]** DSK mixing level control
  Varies the mixing level of the *DSK effect* with respect to the PROGRAM bus video signal.
- **[DSK PVW]** DSK preview button
  To check the *DSK effect* on the preview monitor before feeding it to the PROGRAM bus. The button lights when ON, and automatically switches off once the *DSK effect* has been fed to the PROGRAM bus.
- **[AUTO]** DSK feed button
  Feeds the *DSK effect* to the PROGRAM bus. The transition lasts for the time preset with the TRANSITION TIME controls ❺. To switch off the *DSK effect*, press the same button again. The effect will be cancelled automatically with the transition lasting for the preset time. While the effect is in progress, the button blinks.

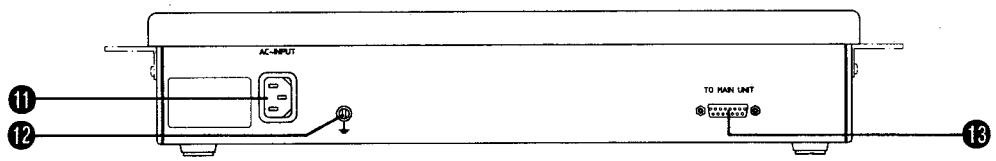
❾ **[EFFECTS] Effects feed buttons and fader lever**
Used to feed the video signal selected on the PRESET/KEY bus to the PROGRAM bus for a *background effect*, or to switch the *key effect* preset with the EFFECTS KEYER controls ❿, on or off using a *mix* or *wipe effect*.

- **[EFFECTS]** Effect mode select buttons
  MIX: Allows feeding or switching on/off with a *mix effect*. (Cannot be used together with the *wipe effect*.)
  WIPE: Allows feeding or switching on/off with a *wipe effect*. (Cannot be used together with the *mix effect*.)
  KEY: To select the PRESET/KEY bus either for a *background effect* (OFF: the button is not lit) or for a *key effect* (ON: the button is lit).
- **[AUTO]** Auto transition button
  Press to send the selected effect automatically. The transition lasts for the time preset with the TRANSITION TIME controls ❺. The button blinks while the effect is in progress.
- Fader lever
  Move the lever to send the selected effect manually.

❿ **[EFFECTS KEYER] Effects keyer buttons and controls**
To set a *key effect* for on/off switching with the EFFECTS controls ❾. Also used to set the DSK masking effect executed with the DSK controls ❽.

- **[CHROMA]** Chroma key on/off button
  Press to select the chroma key mode. (The button lights.)
- **[LUM]** Luminance key on/off button
  Press to select the luminance key mode. (The button lights.)
- **[PATTERN]** Pattern key on/off button
  Press to select the pattern key mode. (The button lights.) When this button is pressed together with either the CHROMA or LUM button, the portion that should not be keyed in *chroma* or *luminance keying effects* can be masked (covered) with a wipe pattern.
- **[SLICE]** Slice level control
  Varies the slice level of the key source when the chroma key or luminance key mode is selected.
- **[SIZE]** Pattern size control
  Varies the size of the wipe pattern for a key source when the pattern key mode is selected. Also used to set the size of the wipe pattern for masking, or the compression ratio when the digital compress effect is used in keying.

CONTROL UNIT: REAR PANEL



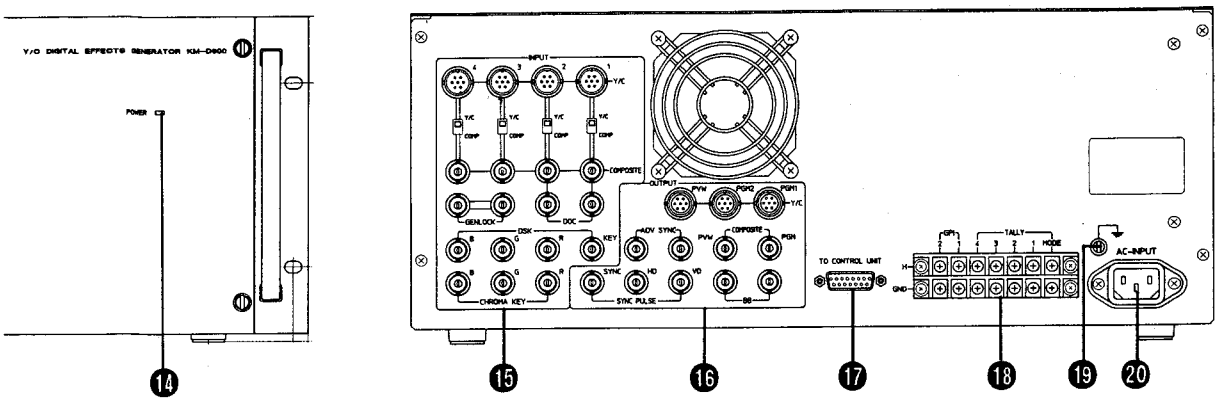
⓫ **[AC INPUT] AC input socket**
Connect to an AC outlet using the provided power cable.

⓬ **Ground terminal**
A ground terminal for the entire system. To prevent malfunctions due to noise, ground the chassis across units and racks.

⓭ **[TO MAIN UNIT] Connector**
Connect to the main unit using the provided cable.

MAIN UNIT

- Front Panel
- Rear Panel



⑭ [POWER] Power indicator
Lights when the power is on. The POWER switch is located on the control unit.

⑮ [INPUT] Input connectors
Connectors for different types of signals are provided.

- **[Y/C 1 - 4]** Video signal input connectors (7-pin S-connectors)
  Exclusively for the Y/C signal. Numbers 1 - 4 correspond to those of the cross-point select buttons ❶. To input to these connectors, set the switches underneath to the "Y/C" position.
- **[COMPOSITE 1 - 4]** Video signal input connectors (BNC)
  For the composite video signal. Numbers 1 - 4 correspond to those of the cross-point select buttons ❶. To input to these connectors, set the switches above to the "COMP" position.
- **[Y/C, COMP]** Input select switches
  Set to "Y/C" when a Y/C signal is input.
  Set to "COMP" when a composite video signal is input.
- **[GENLOCK]** External reference signal input connectors (BNC)
  Apply a reference sync signal (either composite video signal or black burst signal). One of the connectors can be used as a loop-through output connector. If loop-through connection is not required, terminate the connector with the provided 75-ohm termination plug.
- **[DOC 1, 2]** Dropout compensator input connectors
  To detect dropouts in a VTR's output, connect the DOC OUT terminal of the VTR (which outputs the playback RF signal) to these connectors.

Notes

- The RF converter output for television cannot be connected to these connectors.
- DOC 1 is exclusively for the VTR connected to INPUT 1, and DOC 2 for the VTR connected to INPUT 2. Dropouts cannot be detected with VTRs connected to INPUT 3 and 4.
- Dropout compensation is applied to the Y/C signal input to DOC 1 and DOC 2. If composite signals are input to these terminals, no compensation takes place.
- The Y/C and COMPOSITE connectors of the same input channel cannot be used simultaneously.

- **[DSK R/G/B]** DSK fill video signal input connectors (BNC)
  Apply R, G, and B signals to be used as a fill video signal in DSK operations.
- **[DSK KEY]** Key signal input connector (BNC)
  Apply the signal selected as a key source in DSK operations. When connecting a character generator which includes a key output (edge signal output, etc.) in addition to R, G, and B outputs, connect the key output to this connector.
- **[CHROMA KEY R/G/B]** Chroma key signal input connectors (BNC)
  Apply R, G and B signals for use in chroma keying.

⑯ [OUTPUT] Output connectors
Connectors for different types of outputs are provided.

- **[PGM Y/C 1, 2]** (7-pin S-connectors)
  Each outputs the PROGRAM bus video signal in the Y/C mode.
- **[PVW Y/C]** (7-pin S-connector)
  Outputs the preview video signal in the Y/C mode.
- **[PGM COMPOSITE]** (BNC)
  Outputs the PROGRAM bus video signal in the composite mode (VBS).
- **[PVW COMPOSITE]** (BNC)
  Outputs the preview video signal in the composite mode (VBS).

The following connectors output various reference signals generated by the KM-D600's built-in sync signal generator. When the KM-D600 is used in the external sync mode, these signals are output in sync with the external reference signal.

- **[BB]** Black burst output connectors (BNC)
  Each outputs a black burst signal.
- **[HD]** Horizontal sync signal output connector (BNC)
- **[VD]** Vertical sync signal output connector (BNC)
- **[SYNC]** Sync signal output connector (BNC)
- **[ADV SYNC]** VTR servo lock signal output connectors (BNC)
  Connect to the SYNC IN connectors of VTRs.

Information
The output signal from the PGM Y/C 1 can be internally switched over to the Y/C 924 format. For details, consult an authorized JVC service agent.

⓱ **[TO CONTROL UNIT] Connector**
Connect to the TO MAIN UNIT connector of the control unit using the provided cable.

⓲ **[TALLY, GPI] Tally and GPI input terminals**

- **[TALLY 1 - 4/MODE]** Tally output terminals
  Normally supplies tally power (5 V DC, max.10 mA) as well. When the MODE terminal is shorted to GND, it is possible to operate the tally in the make-contact mode.
- **[GPI 1, 2]** General purpose interface terminals
  These terminals make it possible to control the KM-D600 from an external unit such as an editing controller.
  GPI 1: Shorting this to GND triggers automatic transition of an effect selected with the EFFECTS controls ⓽. (Same as pressing EFFECTS AUTO button.)
  GPI 2: Shorting this to GND triggers automatic transition of a DSK effect. (Same as pressing DSK AUTO button ⓼.)

Information
When the KR-M820 MII VTR is used in combination with the KM-D600, automatic swapping of the video signals on the PROGRAM and PRESET/KEY buses is possible when the GPI 1 and 2 terminals are used simultaneously. Resetting of internal switches is necessary. For more details, consult an authorized JVC service agent.

⓳ **Ground terminal**
A ground terminal for the entire system. To prevent malfunctions due to noise, ground the chassis across units and racks.

⓴ **[AC INPUT] AC input socket**
Connect to an AC outlet using the provided power cable.

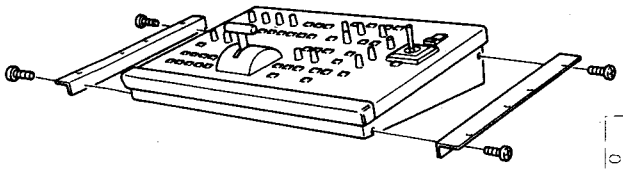
INSTALLATION

Screws required for installation are not provided. Obtain appropriate screws.

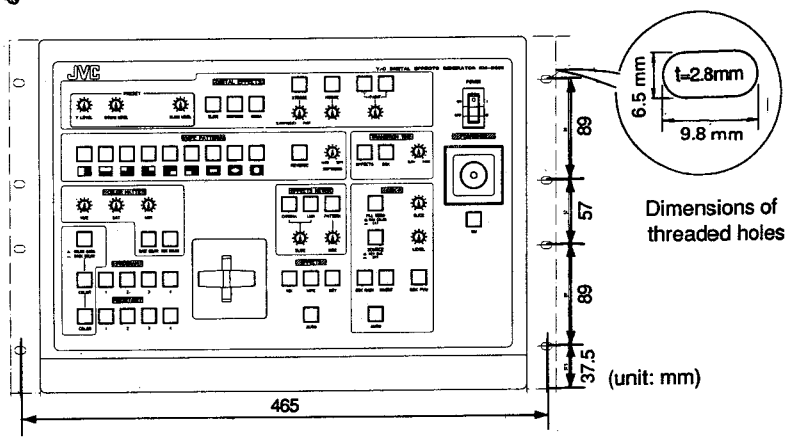
INSTALLING THE CONTROL UNIT IN A CONTROL CONSOLE

Although the KM-D600 is designed as a desk-top model, it can be installed in a control console built to the EIA 19-inch rack standard by using the provided side brackets.

1. Attach the side brackets to the control unit with provided screws. (The side brackets are the same for the right and left.)



2. Install the control unit into the console referring to the dimension diagram shown below.
   - The standard operating position of the control unit is horizontal. Do not install it at an angle greater than 45°, otherwise the fader lever may move under its own weight.
   - Do not attempt to lift the control unit with the fader lever.



INSTALLING THE MAIN UNIT IN A RACK

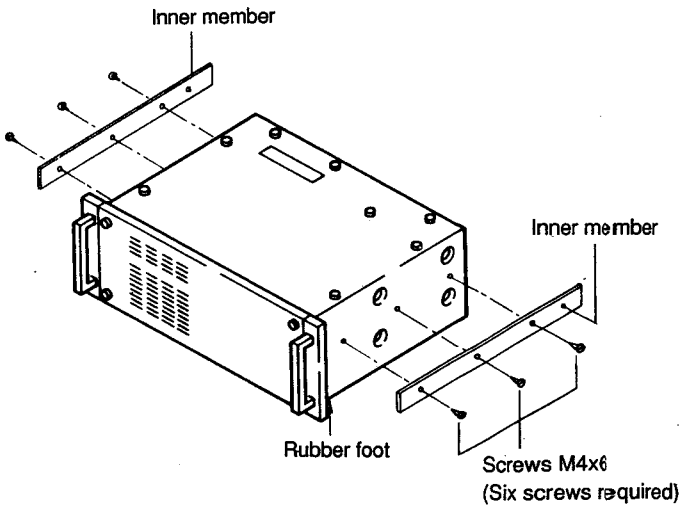
The main unit can be installed in an EIA 19-inch rack using specified slide rails.

1. Remove the screws retaining the rubber feet (at four locations).
2. Attach the inner member of the slide rail to each side of the main unit.
3. Attach the outer member of the slide rail to each side of the rack, and then slide the main unit into the rack.

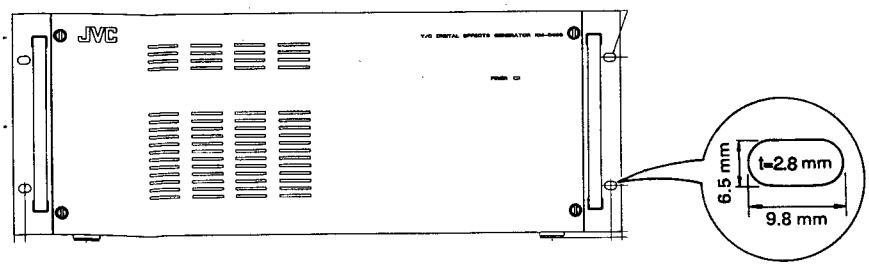
Usable slide rails

Model No.	Manufacturer	Length
C-305-20	Accuride Co., Ltd.	508 mm (20")

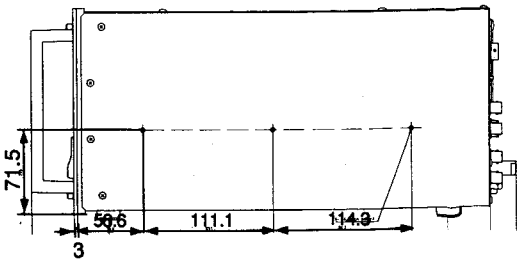
* For attaching the outer member to the rack, consult the dealer from whom you purchased the slide rails or the rack.



How to attach the inner member



Dimensions of threaded holes



(unit: mm)

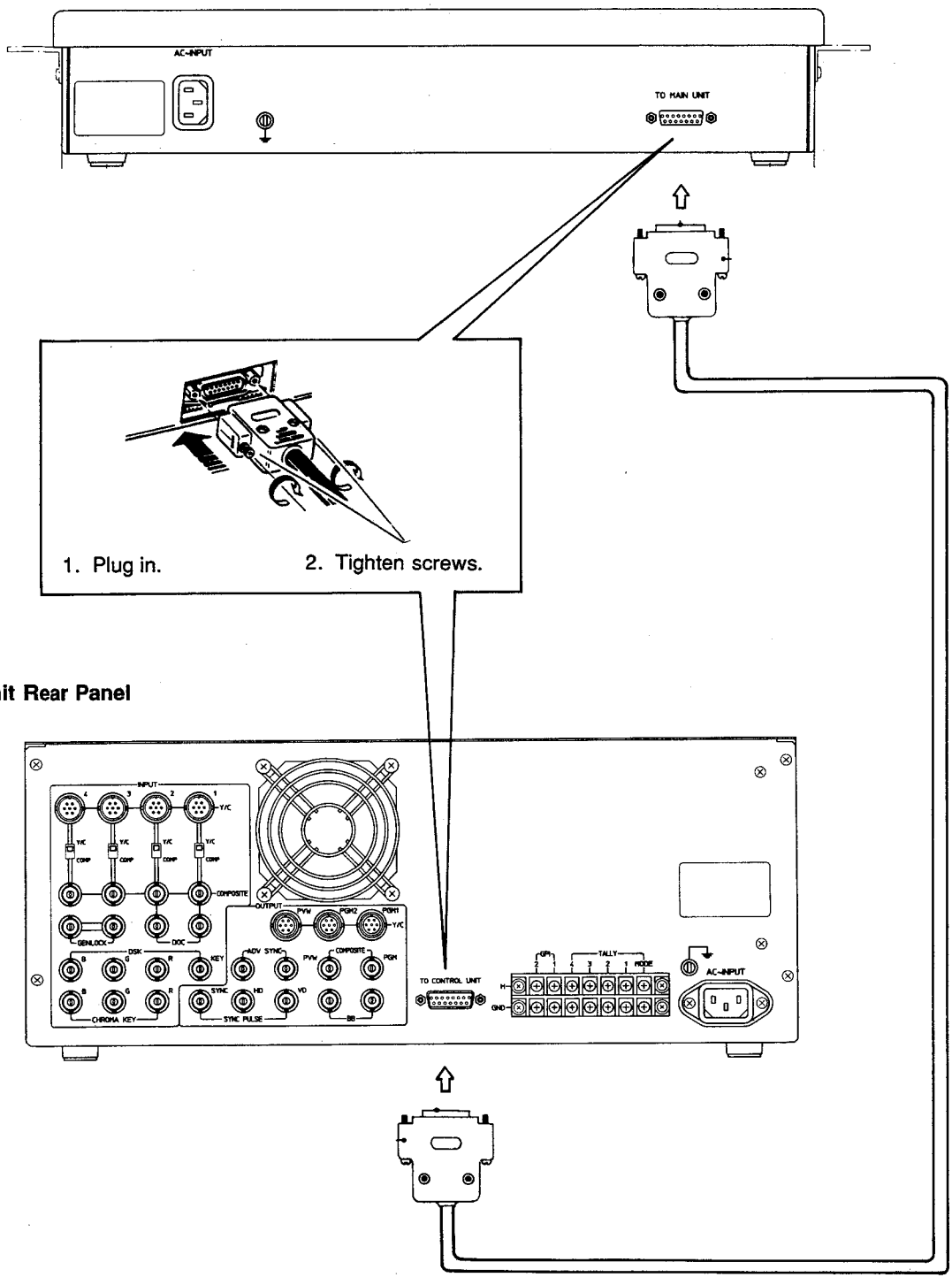
Dimensions of inner member mounting hole positions

CONNECTIONS

CONNECTING THE CONTROL UNIT TO THE MAIN UNIT

Use the provided cable.

Control Unit Rear Panel

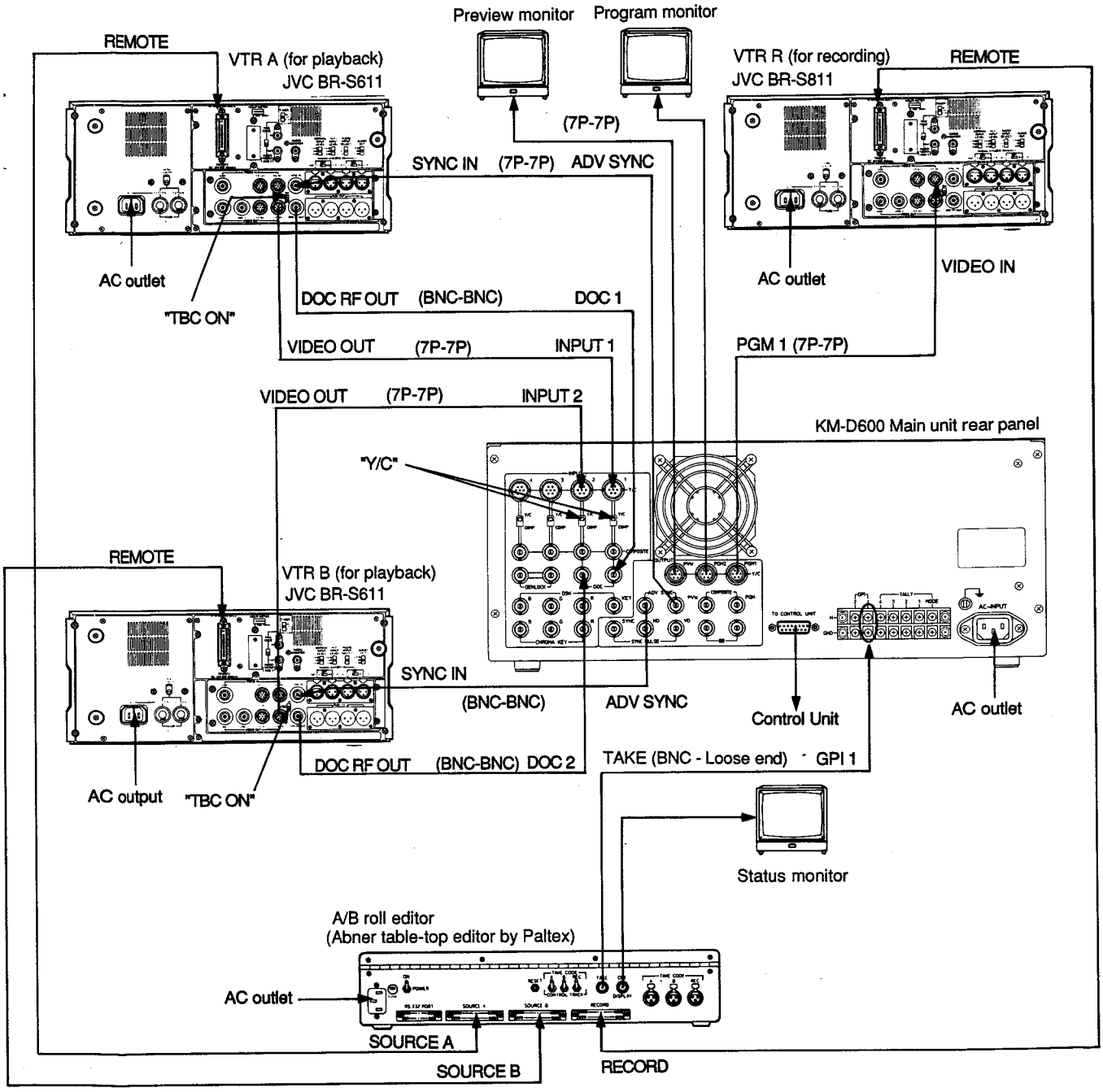


Main Unit Rear Panel

Information
The cable can be extended up to 100 m (328 ft). Any further extension will cause malfunctions.

CONNECTING TO VTRs, MONITORS, AND EDITING CONTROLLERS

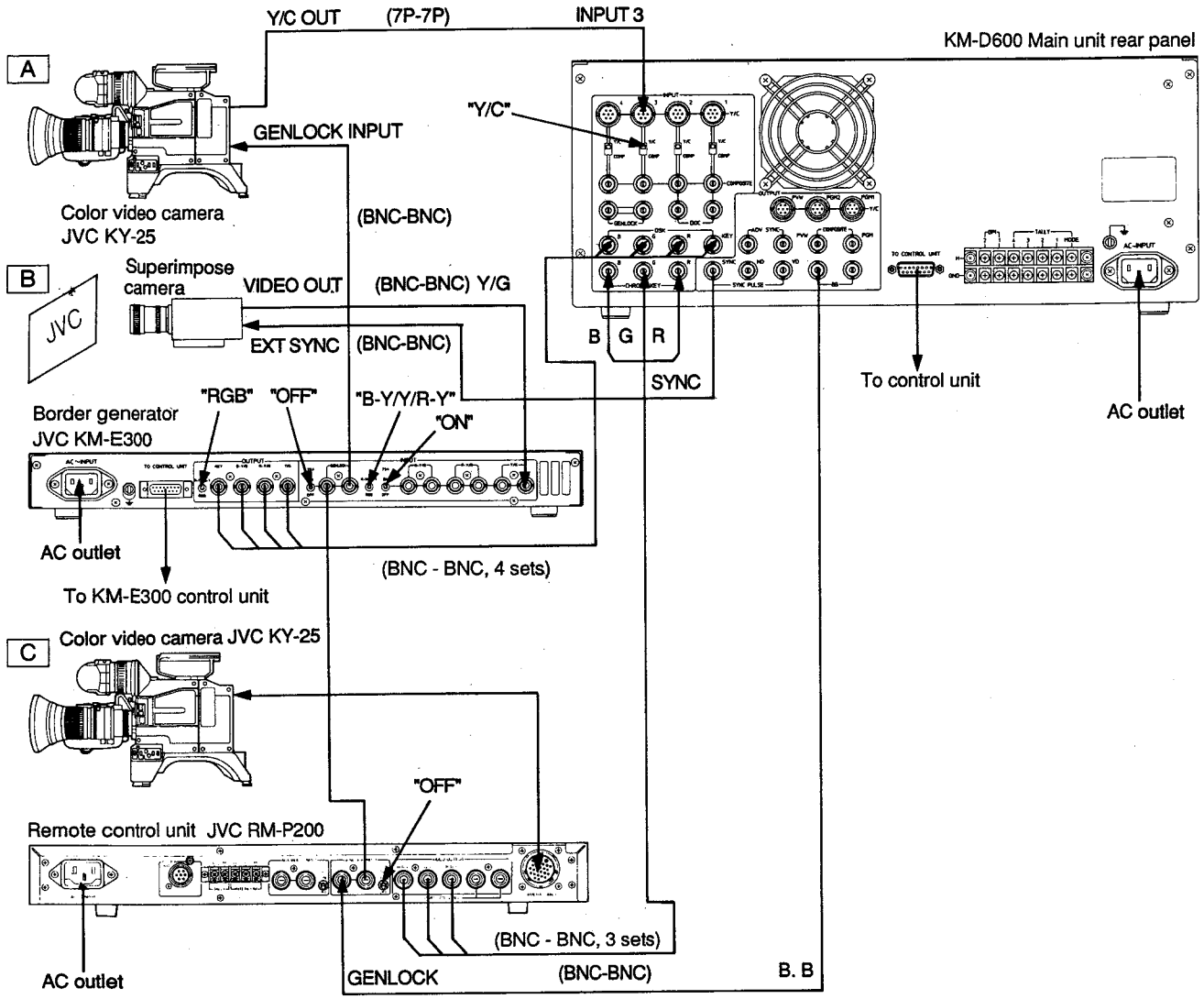
The diagram below shows a system example in which three S-VHS VTRs are used for A/B roll editing. Since the KM-D600 incorporates two timebase correctors, VTR playback signals can be input directly to the KM-D600.



- For audio connections, refer to the instruction manual of the VTR or audio mixer you are using.
- For connections and operations of time code generator/readers, VTRs and editing controllers, refer to the relevant instruction manuals.
- Be sure to connect KM-D600's ADV SYNC to the VTRs' SYNC IN connectors.
- The Y/C and COMPOSITE connectors of the same input channel cannot be used simultaneously.
- Connecting cables are not provided. Obtain cables appropriate to the intended application.
- **Set the sync mode of the playback VTRs to EXT.**

CONNECTING TO KEYING CAMERAS

By adding cameras to the system shown on the previous page, you can insert characters and graphics and use special effects such as chroma keys.



System examples

[A] In this example, a color video camera connected to one of the INPUT connectors is used as both a studio camera and a superimpose camera.

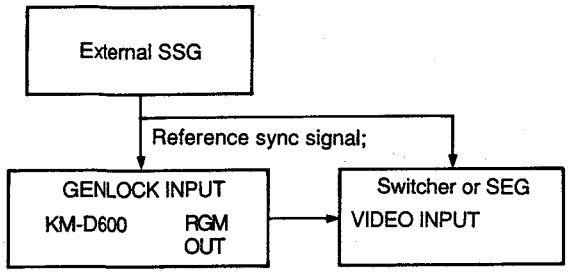
[B] In this example, a black-and-white camera is used in combination with a border generator to insert border-defined characters. A character generator can be connected instead of the camera and border generator combination.

[C] In this example, chroma key operations can be performed. With the KM-D600, chroma keying is possible only with RGB signals. Composite video signal input is unnecessary.

- For more information on connections and operations of color video cameras, remote control units and VTRs, refer to the relevant instruction manuals.
- The RGB outputs of a character generator must be analog RGB signals (without sync). TTL-RGB cannot be connected.
- Connecting cables are not provided. Obtain cables appropriate to the intended application.
- Signals input to the CHROMA KEY INPUT and DSK INPUT connectors are not processed by the internal timebase correctors. Therefore, it is necessary to genlock those signals.

PREPARATIONS (System Adjustments)

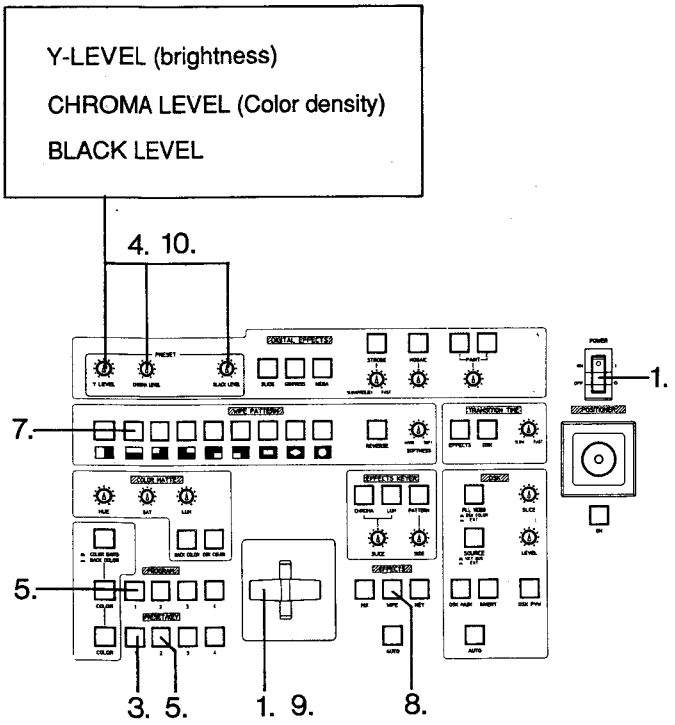
PHASE ADJUSTMENT



In this example, phase adjustment of the KM-D600's output video signal is necessary.

Because the KM-D600 incorporates timebase correctors, phase adjustment of the input video signal is not necessary. Only when the KM-D600 operates in the external sync mode with a reference signal applied to the GENLOCK connector and its output video signal is supplied to a separate switcher or SEG, is phase adjustment of the output video signal required. Parts to be adjusted are located inside the unit. If necessary, consult an authorized JVC service agent.

VIDEO LEVEL AND COLOR ADJUSTMENT (Simplified method)



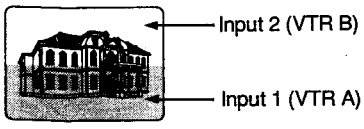


Image on the program monitor
(at step 9)

It is possible to fine-adjust the video level and color of each input video signal (from 1 to 4). The following describes a simplified adjustment procedure using the system shown on page 10 as an example. (Alignment of video levels and color tones of the two connected VTRs)

1. Make sure that the fader lever is at the bottom position and then turn on the KM-D600 and other connected units.
2. Play back tapes with the same contents on the two VTRs simultaneously.
3. Select INPUT 1 (VTR A) on the PRESET/KEY bus.
4. Adjust the video level and color tone of VTR A referring to the preview monitor.
5. Select INPUT 2 (VTR B) on the PRESET/KEY bus.
6. Select INPUT 1 (VTR A) on the PROGRAM bus.
7. Press the ▬ button.
8. Press the WIPE button.
9. Move the fader lever to its center position.
   The input 1 and input 2 video signals will appear in the lower half and the upper half of the program monitor respectively.
10. Adjust the video level and color tone of VTR B to match those of VTR A.

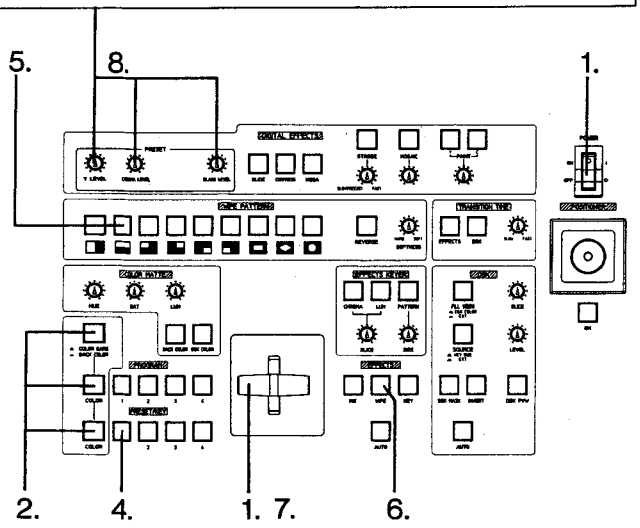
Information

- With some pictures, it may be difficult to compare input 1 and input 2 on a vertically-split screen. In this case, use another wipe pattern.
- Only the signal selected on the PRESET/KEY bus can be adjusted. (The color bars and background colors cannot be adjusted.)

VIDEO LEVEL AND COLOR ADJUSTMENT (Using built-in color bars)

The following describes an adjustment procedure using the built-in color bars. The system shown on page 10 is used as an example.
To use this method, it is necessary to record the color bars signal of the camera's built-in color bars generator for 30 seconds to one minute.
For more accurate adjustment, special instruments such as a waveform monitor, a vectorscope, etc. are required. Consult an authorized JVC service agent.

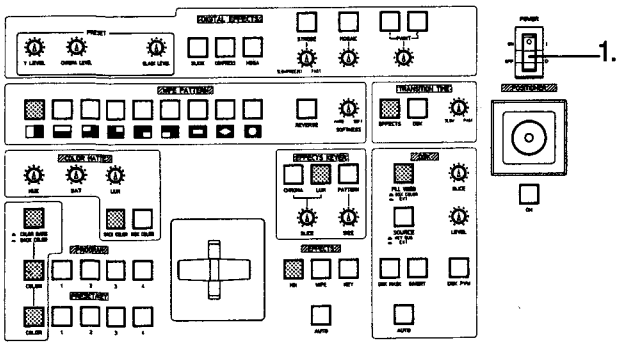
Y-LEVEL (brightness): Adjust referring to the white portion of the color bars.
CHROMA LEVEL (Color density)
BLACK LEVEL: Adjust referring to the black portion.



1. Make sure that the fader lever is at the bottom position and then turn on the KM-D600 and other connected units.
2. Make sure that the COLOR BARS/BACK COLOR button and the COLOR buttons on both the PROGRAM and PRESET/KEY buses are lit.
   (The color bars will be seen on the program monitor.)
3. Load the tape in VTR A and play back the color bars segment.
4. Select INPUT 1 (VTR A) on the PRESET/KEY bus.
5. Press the ▬ button.
6. Press the WIPE button.
7. Move the fader lever to its center position.
   The built-in color bars and input 1 video signals will appear in the lower half and the upper half of the program monitor respectively.
8. Adjust the video level and color tone of VTR A to match the built-in color bars.
9. Repeat steps 3 through 8 for VTR B.

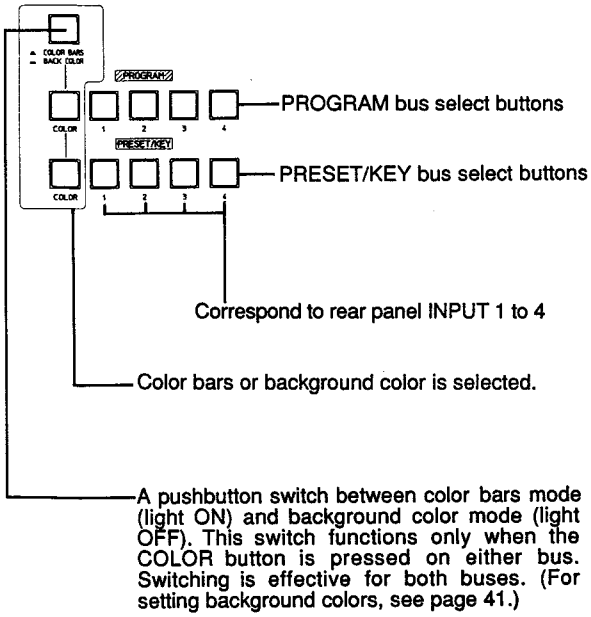
OPERATION

POWER ON/OFF



1. Set the POWER switch to ON.
   The initial status is engaged (with buttons shaded in the figure lit).

INPUT SELECTION

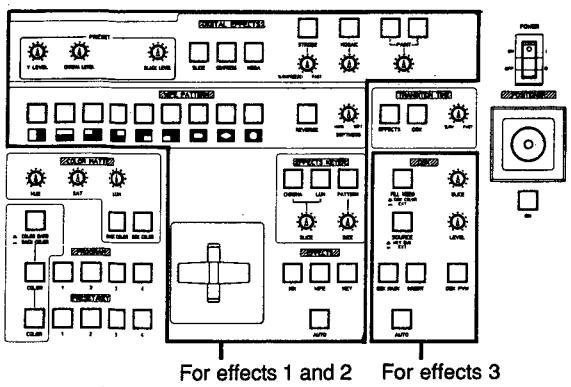

COLOR BARS
BACK COLOR
PROGRAM
COLOR
1
2
3
4
PRESET/KEY
COLOR
1
2
3
4
PROGRAM bus select buttons
PRESET/KEY bus select buttons
Correspond to rear panel INPUT 1 to 4
Color bars or background color is selected.
A pushbutton switch between color bars mode (light ON) and background color mode (light OFF). This switch functions only when the COLOR button is pressed on either bus. Switching is effective for both buses. (For setting background colors, see page 41.)

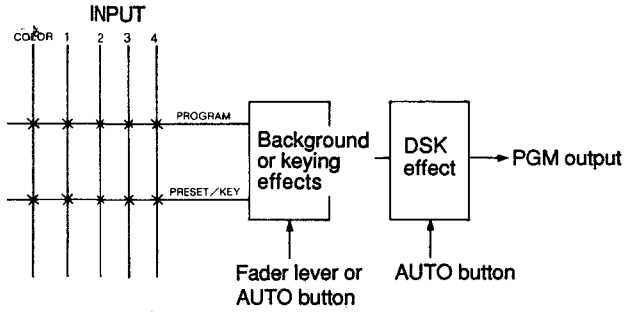
1. Press the button corresponding to the desired input on each bus. The button pressed will light. When the selected signal is output as a program signal, the button is brightly lit; when the selected signal is standing by, the button is dimly lit.

   - PROGRAM bus
     The signal selected on this bus is output as a program signal from the PGM OUT connector. To switch signals, press the corresponding buttons on the PROGRAM bus.
   - PRESET/KEY bus
     The signal selected on this bus is used for three types of special effects:
     - Background effects
     - Key effects (luminance keys)
     - Downstream key effects

Note
If a button with no corresponding input signal should be pressed by mistake, and then another button with corresponding input is pressed, the chroma level of the input video signal will be excessively high for a certain period. This is because the ACC (Auto Color Level Corrector) operates in response to the input burst signal level and, with no input signal, over-amplifies the chroma level. To avoid this phenomenon, it is recommended that black burst signals be applied to input connectors that are not used.

AVAILABLE EFFECTS





The effects available from the KM-D600 are divided into three groups.

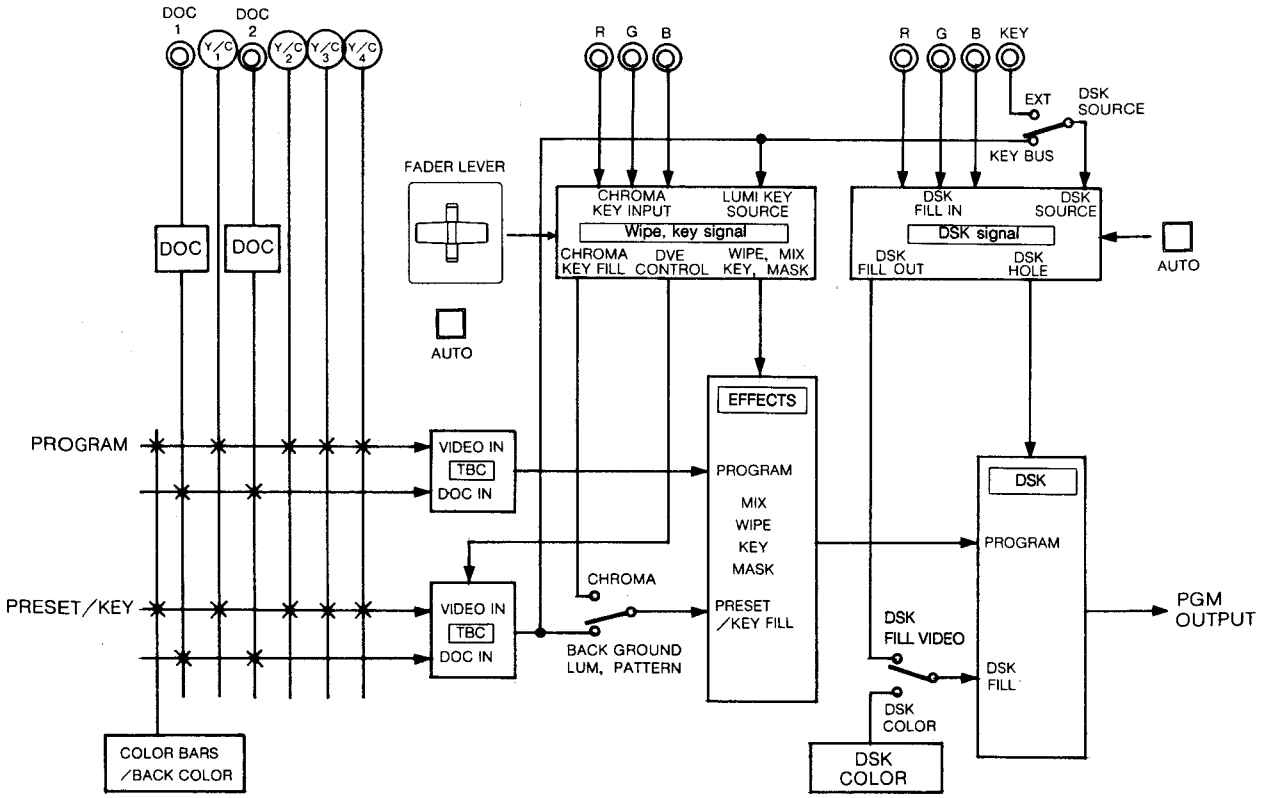
1. *Background effects*
   (Switching between PROGRAM and PRESET/KEY bus signals)
2. *Keying effects*
3. *Downstream key* (DSK) *effects*

1. With *background effects*, signals can be switched using *wipe*, *mix* and *digital effects*. Both manual switching with the fader lever and automatic switching with the AUTO button are possible. These effects cannot be used together with *keying effects*.

2. With *keying effects*, keying on/off can be performed using *wipe*, *mix* and *digital effects*. Both manual keying on/off with the fader lever and automatic keying on/off with the AUTO button are possible. These effects cannot be used together with the *background effects*.

3. With *DSK effects*, an additional effect is keyed in the signal already processed with effects 1 or 2. DSK can be switched on/off using a *mix effect* only. Automatic switching with the AUTO button is also possible. *Digital effects* cannot be used with *DSK effects*.

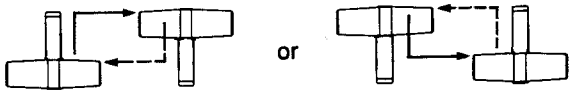
For reference: KM-D600 Video Signal Flow Chart (PGM path only)

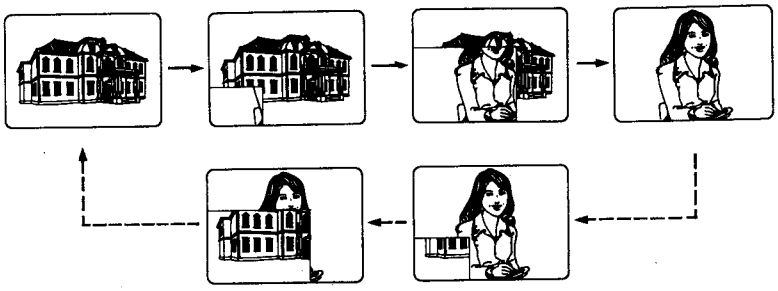
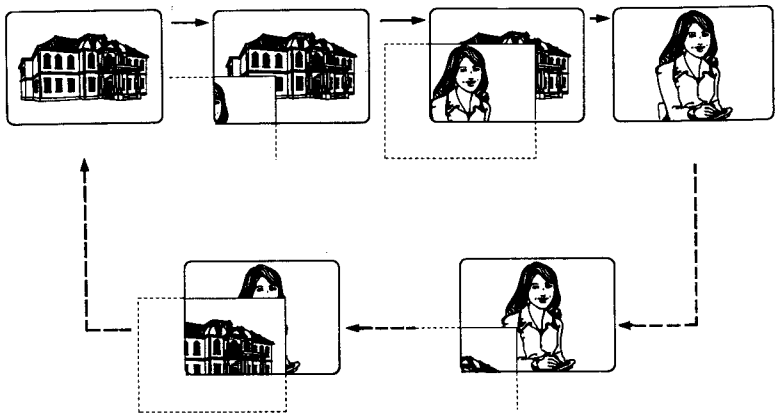
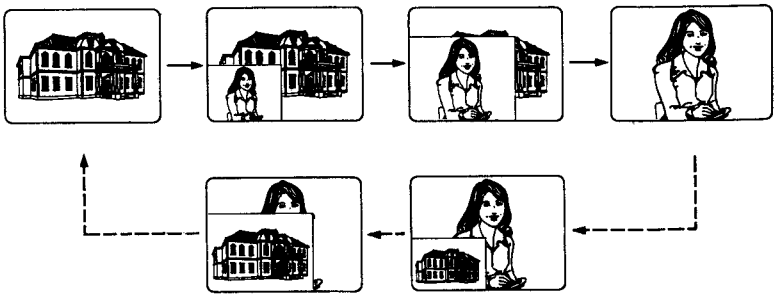


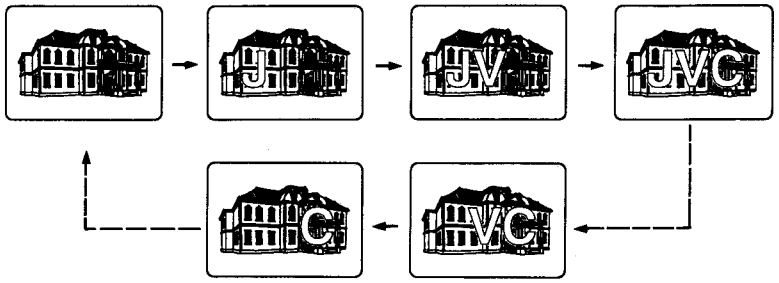
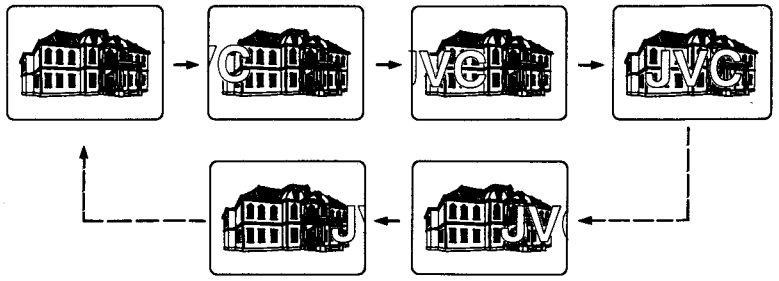
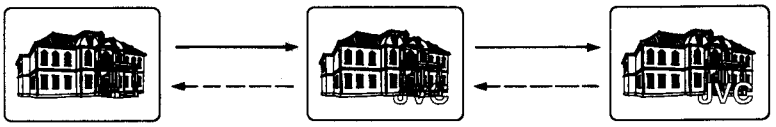
QUICK GUIDE TO EFFECTS

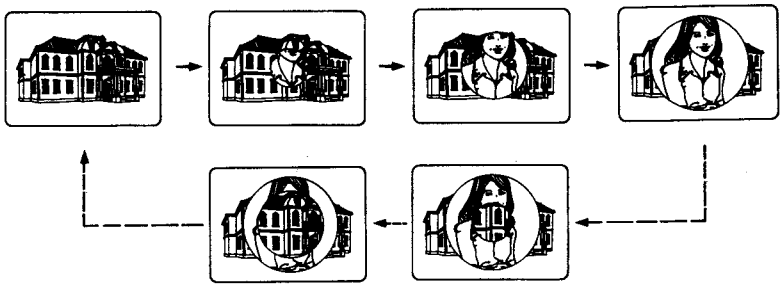
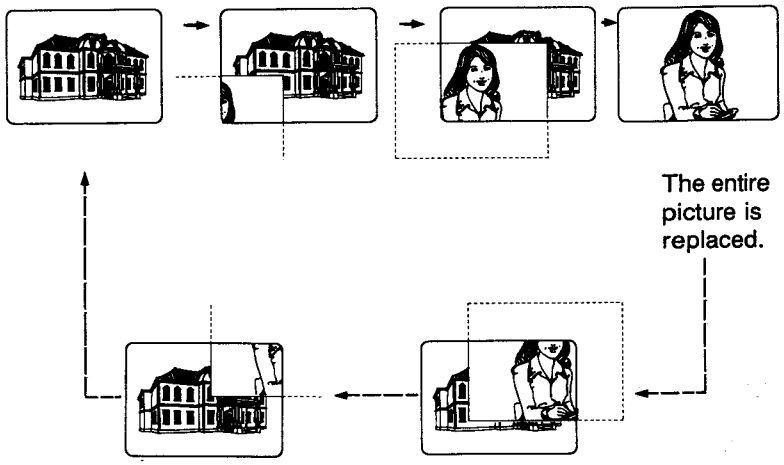
This chart illustrates the effects available with the KM-D600. For operations, refer to indicated pages.

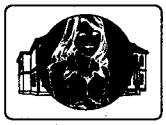
- To better understand all functions and operations, it is recommended that you practice all effects.
- Arrows indicate the direction of fader lever movement. (Except DSK)



Effect	Function	Resulting pictures	Page
Background effect Example 1	Switching with a *wipe effect* • Wipe pattern example	Example 1 	20
Example 2	Switching with a *mix effect*	Example 2	21
Example 3	Switching with a *digital effect* (slide) • Wipe pattern example	Example 3 	22
Example 4	Switching with a *digital effect* (compress) • Compress pattern example	Example 4 	23

Effect	Function	Resulting pictures	Page
Keying effects Example 5	Luminance key (Keying a title) • With a *mix effect*	Example 5 	25
Example 6	• With a *wipe effect* (Wipe pattern example ◨)	Example 6 	26
Example 7	• With a *digital effect* (slide) (Wipe pattern example ◨)	Example 7 	27
Example 8	• With a *digital effect* (compress) and *mix effect*	Example 8  The location of characters can be freely shifted using the POSITIONER controls.	28
Example 9	Chroma key Combining two pictures (a figure and a landscape, for example) • With a *mix effect*	Example 9 Wipes are also possible. (Digital effects cannot be applied.)	31

Effect	Function	Resulting pictures	Page
Keying effects Example 10	Pattern key (Inserting a picture) • Inserting a picture clipped with the preset pattern ◘ using a *mix effect*)	Example 10 	32
Example11	• Inserting a picture clipped with the preset pattern ◘ using a *wipe effect.*	Example 11 	33
Example 12	• Inserting with a *digital slide effect* (using the wipe pattern ◘)	Example12  The entire picture is replaced.	34
Example 13	• Inserting a digitally compressed picture using a *mix effect*	Example 13 	35

Effect	Function	Resulting pictures	Page
Keying effects Example 14	• Moving the inserted picture to the desired position	Example 14 Here the inserted picture (digitally compressed) is moved with the POSITIONER controls.	38
Example15	• *Mosaic, paint, freeze, strobe,* and *reverse effects*	These effects can be applied to the picture keyed in with luminance and pattern key effects. Example 15  (This shows an example in which the pattern-keyed picture is reversed to negative.)	41
DSK effects Example 16	• Keying a title	Example16 (This shows an example in which a title is keyed in and out to the picture resulting from pattern-keying a digitally compressed picture.)	39

Different *digital effects* cannot be applied to two sources.

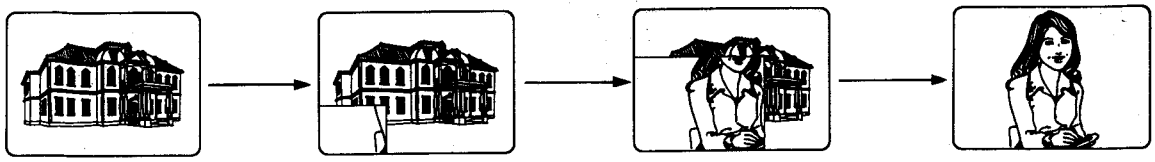
Example:

Impossible!

BACKGROUND EFFECTS (Replacing the PROGRAM bus signal with the PRESET/KEY bus signal)

With wipes

Program monitor screen (Selected wipe pattern: ▬)

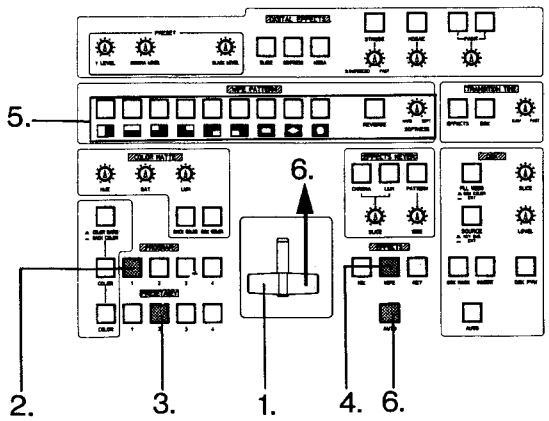


INPUT 1 signal　　INPUT 2 signal

- In the following example INPUT 1 is replaced with INPUT 2.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the WIPE button.
5. Select a desired wipe pattern.*
6. Manual switching:
   Move the fader lever up; the picture will switch in relation to the movement of the lever.
   Automatic switching:
   Press the AUTO button; the picture will switch with the transition lasting for the preset time.*



[Preview monitor screen]

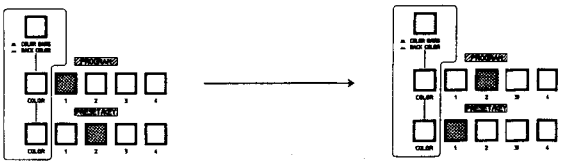
Before executing the effect　　After completion of the effect

INPUT 2 signal　　INPUT 1 signal

The preview monitor displays the result of the effect before the effect is executed. Upon completion of the effect, it displays the effect to be executed next. (The process in-between is not displayed.)

[Flip-flop operation of bus select buttons]

Before executing the effect　　After completion of the effect



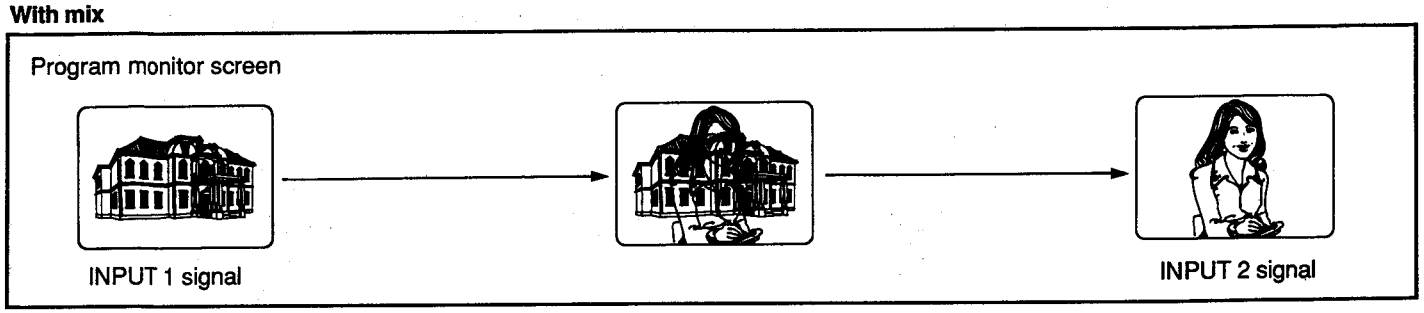
When switching is completed, the status of the PROGRAM and PRESET/KEY buses alternates automatically. This is referred to as a flip-flop operation.

- It is possible to apply *digital effects** such as mosaic, reverse, strobe and paint to the PRESET/KEY bus signal while switching is in progress. However, the effect will be lost when switching is completed. It is recommended that these effects be used together with *keying effects*.

*** Reference pages for related information**

- Wipe pattern selection (page 40)
- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Setting the transition time (page 40)

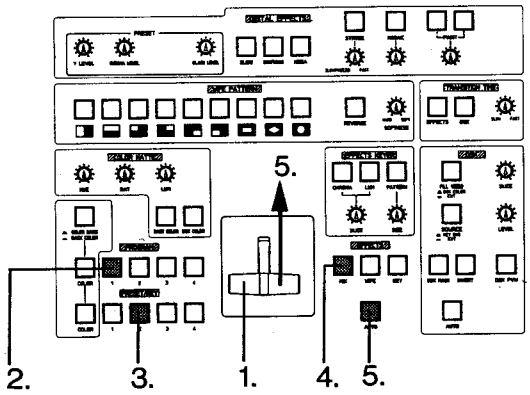
With mix



- In the following example INPUT 1 is replaced with INPUT 2.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the MIX button.
5. Manual switching:
   Move the fader lever up; the picture will switch in relation to the movement of the lever.
   Automatic switching:
   Press the AUTO button; the picture will switch with the transition lasting for the preset time.*



[Preview monitor screen]

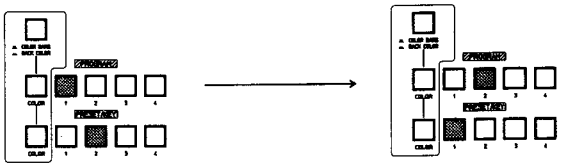
Before executing the effect — After completion of the effect

INPUT 2 signal — INPUT 1 signal

The preview monitor displays the result of the effect before the effect is executed. Upon completion of the effect, it displays the effect to be executed next. (The process in-between is not displayed.)

[Flip-flop operation of bus select buttons]

Before executing the effect — After completion of the effect



When switching is completed, the status of the PROGRAM and PRESET/KEY buses alternates automatically. This is referred to as a flip-flop operation.

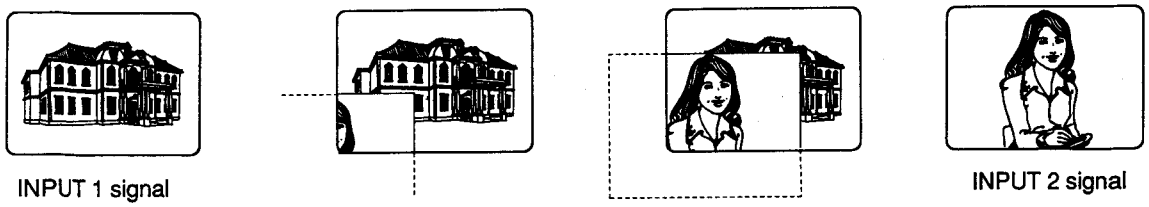
- It is possible to apply *digital effects** such as mosaic, reverse, strobe and paint to the PRESET/KEY bus signal while switching is in progress. However, the effect will be lost when switching is completed. It is recommended that these effects be used together with *keying effects*.

*** Reference pages for related information**

- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Setting the transition time (page 40)

With *digital effects* (SLIDE)

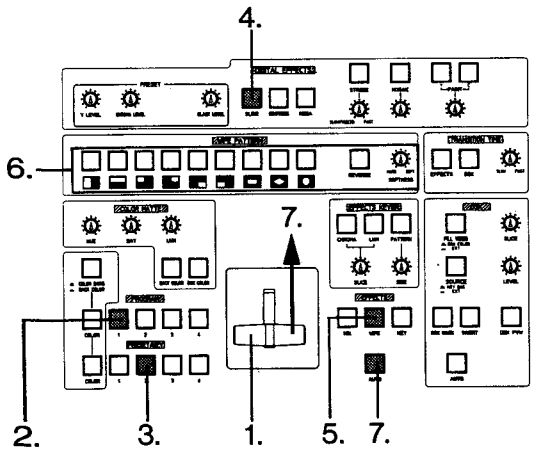
Program monitor screen (Selected wipe pattern: ■)



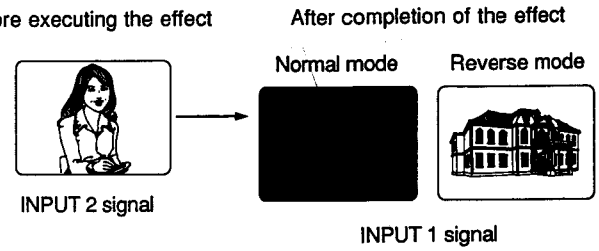
- In the following example INPUT 1 is replaced with INPUT 2.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the SLIDE button.
5. The WIPE button will light automatically.
   (The MIX button cannot be engaged.)
6. Select a desired wipe pattern.*
   (■ , ■ , and ■ cannot be selected. If one of these buttons has been engaged, ■ is automatically selected when the SLIDE button is pressed in step 4.)
7. Manual switching:
   Move the fader lever up; the picture will switch in relation to the movement of the lever.
   Automatic switching:
   Press the AUTO button; the picture will switch with the transition lasting for the preset time.*

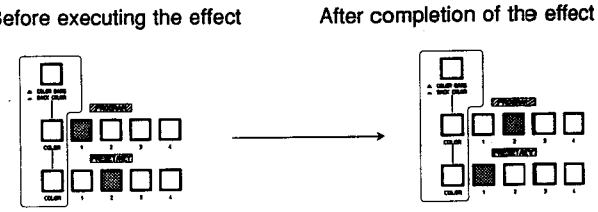


[Preview monitor screen]



The preview monitor displays the result of the effect only before the SLIDE button is pressed in step 4. It is not possible to confirm the preview signal after the SLIDE button has been pressed. Check the preview monitor before pressing the SLIDE button (when the button's light is off.)

[Flip-flop operation of bus select buttons]



When switching is completed, the status of the PROGRAM and PRESET/KEY buses alternates automatically. This is referred to as a flip-flop operation.

- It is possible to apply *digital effects** such as *mosaic, reverse, strobe* and *paint* to the PRESET/KEY bus signal while switching is in progress. However, the effect will be lost when switching is completed. It is recommended that these effects be used together with *keying effects.*

*** Reference pages for related information**

- Wipe pattern selection (page 40)
- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Setting the transition time (page 40)

With *digital effects* (COMPRESS)

Program monitor screen (Selected wipe pattern: ◨)

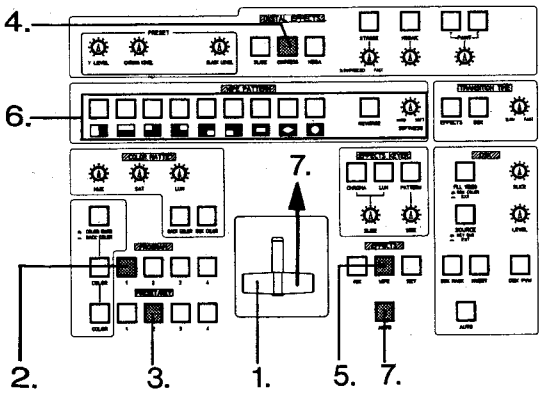
INPUT 1 signal

INPUT 2 signal

- In the following example INPUT 1 is replaced with INPUT 2.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

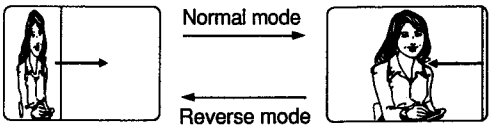
[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the COMPRESS button.
5. The WIPE button will light automatically.
   (The MIX button cannot be engaged.)
6. Select a desired compress pattern with the WIPE PATTERN button.
   See the column on the right.
7. Manual switching:
   Move the fader lever up; the picture will switch in relation to the movement of the lever.
   Automatic switching:
   Press the AUTO button; the picture will switch with the transition lasting for the preset time.*

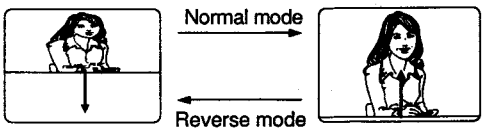


[Compress patterns]

◨ The wipe starts from the horizontally compressed picture. The start position can be moved right or left with the POSITIONER controls.

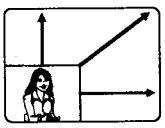


◧ The wipe starts from the vertically compressed picture. The start position can be moved up or down with the POSITIONER controls.

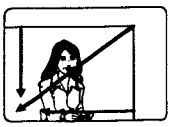


With other patterns selected, the wipe starts from the proportionally compressed picture. If ◘ is selected, the center position of the pattern can be moved up or down with the POSITIONER controls.

Normal mode (selected pattern: ◨)



Reverse mode (selected pattern: ◨)

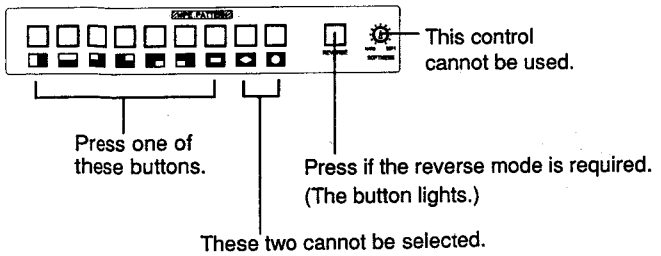


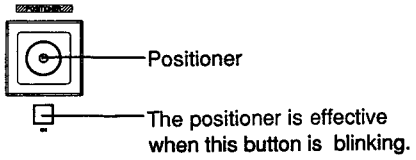
(◘ and ◘ cannot be used. If one of these buttons has been engaged, ◘ is automatically selected when the COMPRESS button is pressed in step 4.)

*** Reference pages for related information**

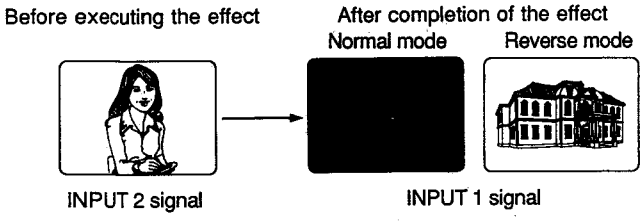
- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Setting the transition time (page 40)

[Selecting a compress pattern]


This control cannot be used.
Press one of these buttons.
Press if the reverse mode is required. (The button lights.)
These two cannot be selected.

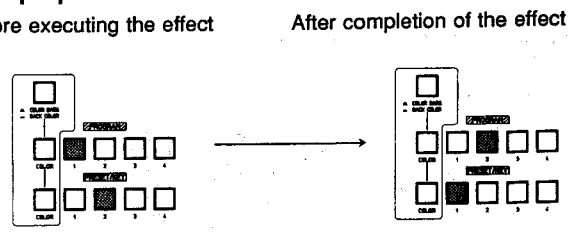


[Preview monitor screen]



The preview monitor displays the result of the effect only before the COMPRESS button is pressed in step 4. It is not possible to confirm the preview signal after the COMPRESS button has been pressed. Check the preview monitor before pressing the COMPRESS button (when the button's light is off.)

[Flip-flop operation of bus select buttons]



When switching is completed, the status of the PROGRAM and PRESET/KEY buses alternates automatically. This is referred to as a flip-flop operation.

- It is possible to apply *digital effects** such as *mosaic, reverse, strobe* and *paint* to the PRESET/KEY bus signal while switching is in progress. However, the effect will be lost when switching is completed. It is recommended that these effects be used together with *keying effects.*

KEYING EFFECTS

Keying

The term "keying" refers to a type of special effect in which a portion of the PROGRAM bus signal is cut out (a video hole is produced) and replaced with another video signal. The signal used to cut the hole is called a "key source" and the signal filling in the hole is called a "fill video signal". Keying can be used to create multiple effects such as titling or picture synthesis. To meet all kinds of requirements, the KM-D600 offers three types of key.

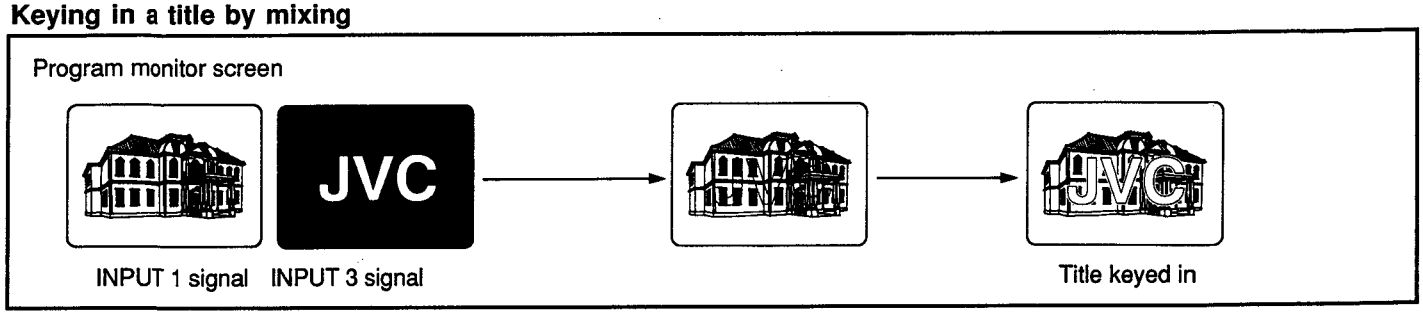
1. Luminance key
   Ideal for inserting titles (lettering and graphics). The key source is the luminance (Y) signal of the input selected on the PRESET/KEY bus. The PROGRAM bus signal is cut out by the brighter portion of the key source Y signal, and replaced with the key source signal serving as a fill video signal. To produce this effect, it is necessary to prepare titles written in white on a black background. If colored titles are desired, use a very light color (a color with high luminance level) for clear *key effects.* Lighting is also important when shooting the titles for clear *key effects.*

2. Chroma key
   A chroma key is used most commonly to combine a picture of a person and a picture of landscape to create the illusion that he or she is actually standing there. It uses a specific color to trigger the keying operation. With the KM-D600, blue is the chroma key color. The key source and the key fill signals are input to the rear panel CHROMA KEY R/G/B connectors. To synthesize a person and a landscape, the camera shoots the person against a blue background. This makes it possible to insert the person into the landscape on the PROGRAM bus.

3. Pattern key
   This key uses a wipe pattern, slide, or compress signal generated by the KM-D600 as the key source, and fits another picture in the pattern. The signal selected on the PRESET/KEY bus serves as the key fill signal.

KEYING IN A TITLE

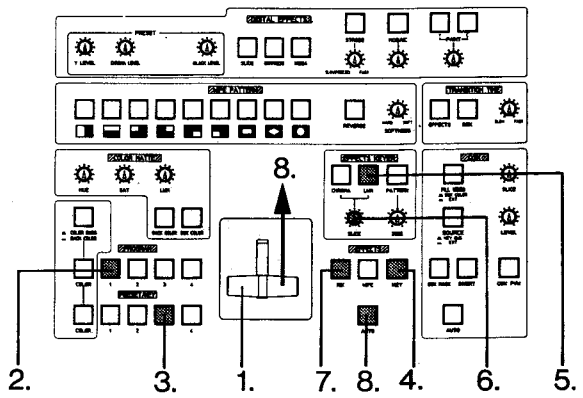
Keying in a title by mixing



- In the following example, a title on INPUT 3 is keyed into the picture on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

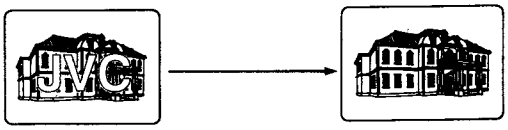
[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 3 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the LUM button.
6. Adjust the SLICE control so that the title appears on the INPUT 1 picture displayed on the preview monitor.
7. Press the MIX button.
8. Manual switching:
   Move the fader lever up; the title will appear in relation to the movement of the lever. To make it disappear, move the lever in the opposite direction.
   Automatic switching:
   Press the AUTO button; the title will appear within the preset time*. Press again to cancel it; it will disappear within the same time.



[Preview monitor screen]

Before executing the effect (corresponds to step 6) — After completion of the effect



The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

[*Reverse, strobe, mosaic, and paint effects]**

It is possible to apply these *digital effects* to the title.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

[Masking*]

It is possible to mask (cover) the portion which should not be keyed using a wipe pattern.

*** Reference pages for related information**

- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Setting the transition time (page 40)
- Flip-flop operation (page 20)
- Masking (page 42)

Keying in a title by wiping

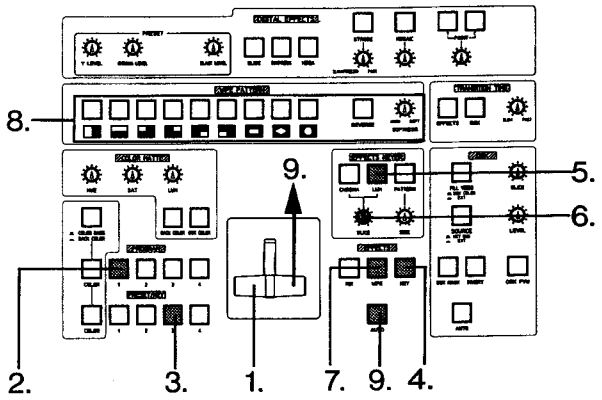
Program monitor screen (Selected wipe pattern: ◨)

INPUT 1 signal INPUT 3 signal Title keyed in

- In the following example, a title on INPUT 3 is keyed into the picture on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

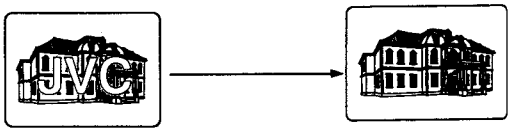
[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 3 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the LUM button.
6. Adjust the SLICE control so that the title appears on the INPUT 1 picture displayed on the preview monitor.
7. Press the WIPE button.
8. Select a wipe pattern*.
9. Manual switching:
   Move the fader lever up; the title will appear in relation to the movement of the lever. To make it disappear, move the lever in the opposite direction.
   Automatic switching:
   Press the AUTO button; the title will appear within the preset time*. Press again to cancel it; it will disappear within the same time.



[Preview monitor screen]

Before executing the effect (corresponds to step 6) After completion of the effect



The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

[Reverse, strobe, mosaic, and paint effects*]

It is possible to apply these *digital effects* to the title.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

[Masking*]

It is possible to mask (cover) the portion which should not be keyed using a wipe pattern.

*** Reference pages for related information**

- Wipe pattern selection (page 40)
- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Setting the transition time (page 40)
- Flip-flop operation (page 20)
- Masking (page 42)

Keying in a title with a digital slide effect

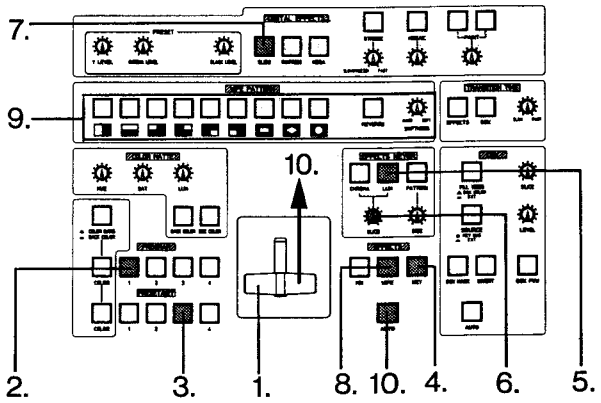
Program monitor screen (Selected wipe pattern: ◨)

INPUT 1 signal INPUT 3 signal Title keyed in

- In the following example, a title on INPUT 3 is keyed into the picture on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 3 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the LUM button.
6. Adjust the SLICE control so that the title appears on the INPUT 1 picture displayed on the preview monitor.
7. Press the SLIDE button.
8. The WIPE button will light automatically.
   (The MIX button cannot be engaged.)
9. Select a desired wipe pattern.*
   (◧ , ◧ , and ◧ cannot be selected.)
10. Manual switching:
    Move the fader lever up; the title will appear in relation to the movement of the lever. To make it disappear, move the lever in the opposite direction.
    Automatic switching:
    Press the AUTO button; the title will appear within the preset time.* To make it disappear, press the button again; the title will disappear within the same time.



[Preview monitor screen]

Before executing the effect (corresponds to step 6) | After completion of the effect

Normal mode | Reverse mode

The preview monitor displays the result of the effect only before the SLIDE button is pressed in step 7.It is not possible to confirm the preview signal after the SLIDE button has been pressed. Check the preview monitor before pressing the SLIDE button (when the button's light is off.)

[Reverse, strobe, mosaic, and paint effects*]

It is possible to apply these *digital effects* to the title.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

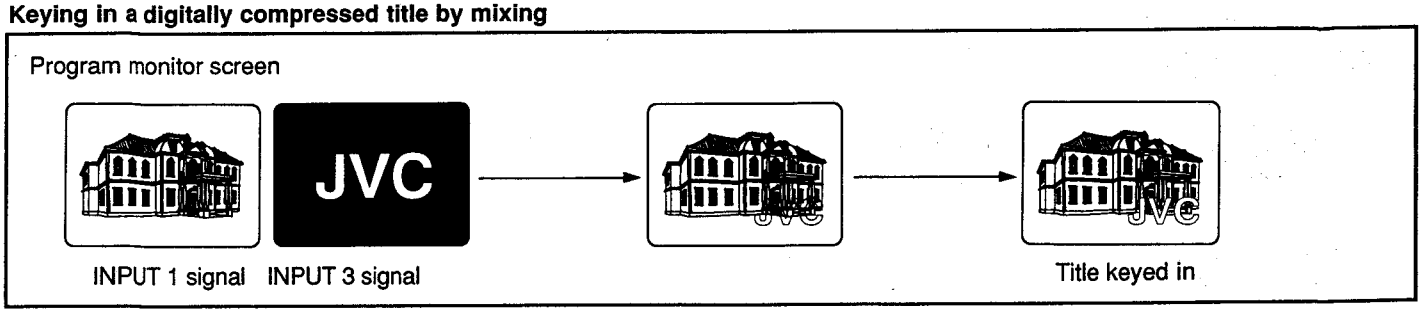
[Wipe direction in title switching off]

The same direction is maintained in switching on and off. For example, if the title wipes in from the left, it wipes out to the right. To make it disappear in the opposite direction, press the REVERSE button after the title has been keyed in.

*** Reference pages for related information**

- Wipe pattern selection (page 40)
- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Setting the transition time (page 40)
- Flip-flop operation (page 20)

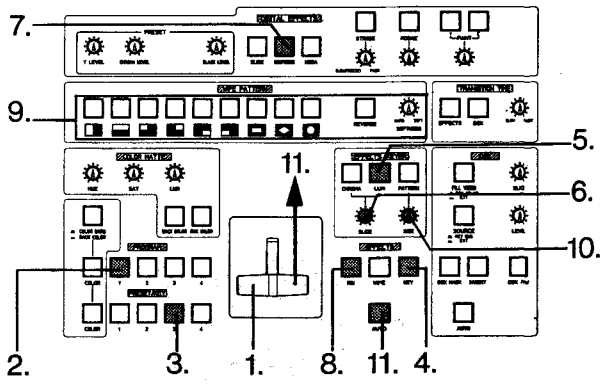
Keying in a digitally compressed title by mixing



- In the following example, a title on INPUT 3 is keyed into the picture on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

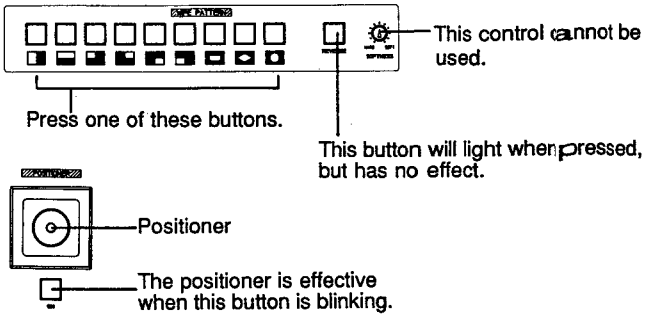
1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 3 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the LUM button.
6. Adjust the SLICE control so that the title appears on the INPUT 1 picture displayed on the preview monitor.
7. Press the COMPRESS button.
   The PATTERN button will blink, indicating that the compression ratio can be varied using the SIZE control.
8. Press the MIX button.
9. Select a desired compress pattern with the WIPE PATTERN button.
   See the column on the right.
10. Adjust the size of the title with the SIZE control.
11. Manual switching:
    Move the fader lever up; the title will appear in relation to the movement of the lever. To make it disappear, move the lever in the opposite direction.
    Automatic switching:
    Press the AUTO button; the title will appear within the preset time*. To make it disappear, press the button again; the title will disappear within the same preset time.



[Compress patterns]

◨	The title is compressed horizontally. It can be moved right or left with the POSITIONER controls.	JVC→JVC
▬	The title is compressed vertically. It can be moved up or down with the POSITIONER controls.	JVC→JVC
	With other patterns selected, the title is proportionally compressed. If ◘ , ◘ , or ◘ is selected, the title can be positioned at any location with the POSITIONER controls. These three patterns produce the same result.	JVC→JVC

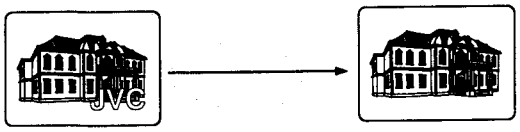
[Selecting a compress pattern]


This control cannot be used.
Press one of these buttons.
This button will light when pressed, but has no effect.
Positioner
The positioner is effective when this button is blinking.

*** Reference pages for related information** • Setting the transition time (page 40)

[Preview monitor screen]

Before executing the effect (corresponds to step 6) — After completion of the effect



The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

[*Reverse, strobe, mosaic, and paint effects]**

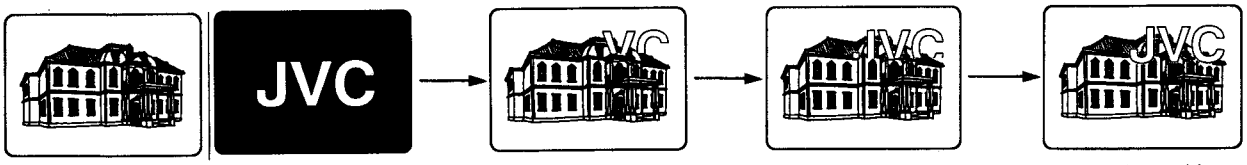
It is possible to apply these *digital effects* to the title.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

Keying in a digitally compressed title by wiping

Program monitor screen (Selected wipe pattern: ■)



INPUT 1 signal INPUT 3 signal — Title keyed in

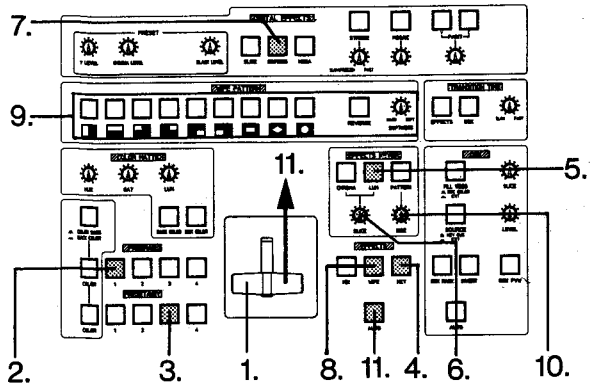
- In the following example, a title on INPUT 3 is keyed into the picture on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings the settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 3 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the LUM button.
6. Adjust the SLICE control so that the title on INPUT 3 appears on the INPUT 1 picture displayed on the preview monitor.
7. Press the COMPRESS button.
   The PATTERN button will blink, indicating that the compression ratio can be varied using the SIZE control.
8. Press the WIPE button.
9. Select a desired compress/wipe pattern with the WIPE PATTERN buttons. (See the chart on the next page.)
   The selected wipe pattern determines both the compress and wipe patterns. They cannot be designated separately.
10. Adjust the size of the title with the SIZE control.
    If the reverse mode has been selected for the wipe pattern in step 9, it is not possible to check the preview signal. Cancel the reverse mode for checking.
11. Manual switching:
    Move the fader lever up; the title will appear in relation to the movement of the lever. To make it disappear, move the lever in the opposite direction.
    Automatic switching:
    Press the AUTO button; the title will appear within the preset time*. To make it disappear, press the button again; the title will disappear within the same preset time.

*** Reference pages for related information**

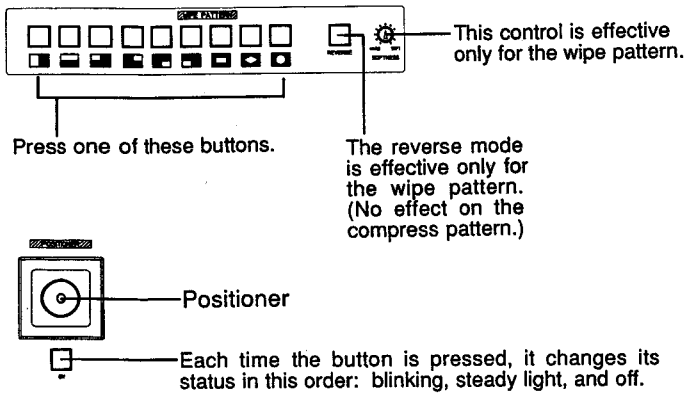
- Setting the transition time (page 40)
- Flip-flop operation (page 20)
- *Mosaic, reverse, strobe, and paint effects* (page 41)



[Compress patterns]

■	The title is compressed horizontally. It can be moved right or left with the POSITIONER controls.	JVC→JVC
▬	The title is compressed vertically. It can be moved up or down with the POSITIONER controls.	JVC→JVC
	With other patterns selected, the title is proportionally compressed. If ◘ , ◘ , or ◘ is selected, the title can be positioned at any location with the POSITIONER controls. These three patterns produce the same result.	JVC→JVC

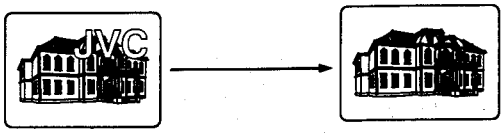
[Selecting a compress/wipe pattern]


This control is effective only for the wipe pattern.
Press one of these buttons.
The reverse mode is effective only for the wipe pattern. (No effect on the compress pattern.)
Positioner
Each time the button is pressed, it changes its status in this order: blinking, steady light, and off.

Blinking: The positioner is effective for the compress pattern.
Steady light: The positioner is effective for both the compress and wipe patterns.
Light off: The positioner has no effect.

[Preview monitor screen]

Before executing the effect (corresponds to step 6) — After completion of the effect



The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

Note
In the reverse mode, the preview monitor does not display the result of the effect. To check the preview signal, cancel the reverse mode.

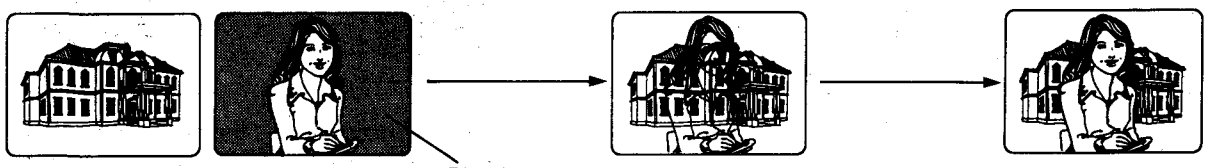
[Reverse, strobe, mosaic, and paint effects*]
It is possible to apply these *digital effects* to the title.

[Operation of bus select buttons]
Flip-flop operation* does not take place.

*** Reference pages for related information**
- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Flip-flop operation (page 20)

CHROMA KEYS (Synthesizing a person and a landscape)

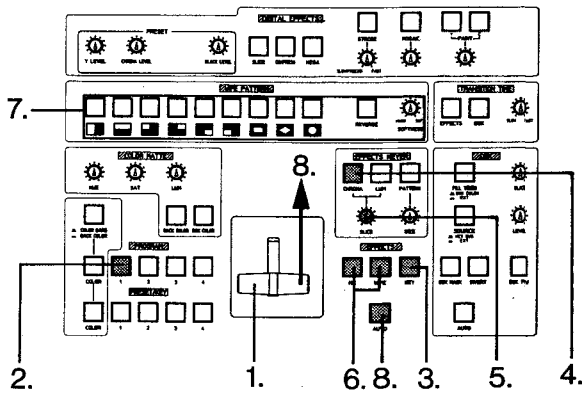
Program monitor screen (Example of chroma key mixing)



- In the following example, a signal input to the CHROMA KEY R/G/B connectors (a person) is keyed into the signal on INPUT 1 (a landscape).
- For chroma keying, it is necessary to shoot the subject key source against a blue background (cloth or wall).
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Press the KEY button.
4. Press the CHROMA button.
5. Adjust the SLICE control so that the person appears on the INPUT 1 picture displayed on the preview monitor.
6. Select a desired effect mode.
   Press the MIX button to execute keying in/out by mixing.
   Press the WIPE button to execute keying in/out with a *wipe effect*.
7. Select a wipe pattern* if the wipe mode was selected in step 6.
8. Manual switching:
   Move the fader lever up; keying in will take place in relation to the movement of the lever. To return to the normal INPUT 1 picture, move the lever in the opposite direction.
   Automatic switching:
   Press the AUTO button; keying in will take place within the preset time*. Press again to return to the normal INPUT 1 picture: keying out will take place within the same time.



[Preview monitor screen]

Before executing the effect (corresponds to step 5) — After completion of the effect

The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

[Masking*]

It is possible to mask (cover) the portion which should not be keyed using a wipe pattern.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

Notes

- To avoid shadows, use at least two lights to illuminate the blue background in the key source. Also, ensure that the subject in front of the blue background does not wear any blue clothing or accessories as anything blue will be replaced by the background picture.
- *Digital effects* cannot be applied.

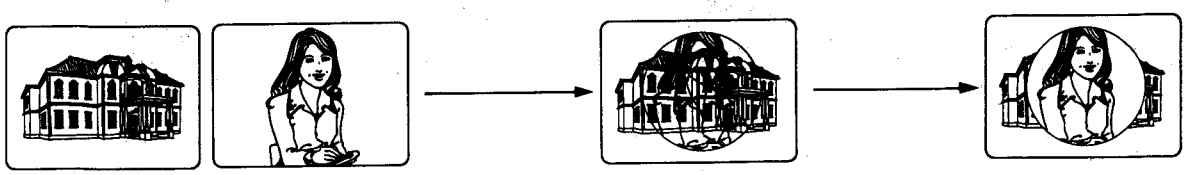
*** Reference pages for related information**

- Wipe pattern selection (page 40)
- Setting the transition time (page 40)
- Flip-flop operation (page 20)
- Masking (page 42)

PATTERN KEYS (Fitting a pattern-cut image into a background picture)

Pattern keying by mixing

Program monitor screen (Selected preset pattern: ◘)

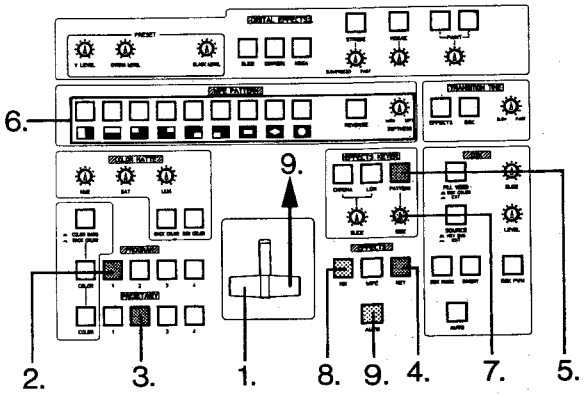


INPUT 1 signal INPUT 2 signal Pattern-cut image keyed in

- In the following example, the INPUT 2 signal is keyed into the INPUT 1 signal.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the PATTERN button.
6. Select a preset pattern with the corresponding WIPE PATTERN button.*
7. Adjust the SIZE control to set the size of the pattern while referring to the preview monitor.
8. Press the MIX button.
9. Manual switching:
   Move the fader lever up; keying in will take place in relation to the movement of the lever. To return to the normal INPUT 1 picture, move the lever in the opposite direction.
   Automatic switching:
   Press the AUTO button; keying in will take place within the preset time*. Press again to return to the normal INPUT 1 picture; keying out will take place within the same time.



[Preview monitor screen]

Before executing the effect (corresponds to step 7) After completion of the effect

The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

[Reverse, strobe, mosaic, and paint effects*]

It is possible to apply these *digital effects* to the signal selected on the PRESET/KEY bus.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

*** Reference pages for related information**

- Wipe pattern selection (page 40)
- Setting the transition time (page 40)
- *Reverse, strobe, mosaic and paint effects* (page 41)
- Flip-flop operation (page 20)

Pattern keying by wiping

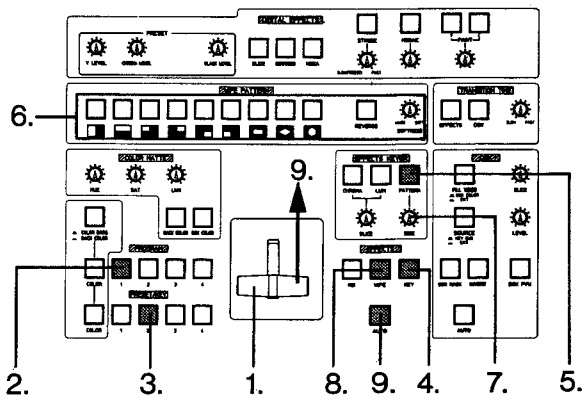
Program monitor screen (Selected preset pattern: ◘)

INPUT 1 signal INPUT 2 signal Pattern-cut image keyed in

- In the following example, the INPUT 2 signal is keyed into the signal on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the PATTERN button.
6. Select a preset/wipe pattern with the corresponding WIPE PATTERN button.*
   (The preset and wipe patterns cannot be designated separately.)
7. Adjust the SIZE control to set the size of the pattern while referring to the preview monitor.
8. Press the WIPE button.
9. Manual switching:
   Move the fader lever up; keying in will take place in relation to the movement of the lever. To return to the normal INPUT 1 picture, move the lever in the opposite direction.
   Automatic switching:
   Press the AUTO button; keying in will take place within the preset time*. Press again to return to the INPUT 1 picture; keying out will take place within the same time.



[Preview monitor screen]

Before executing the effect (corresponds to step 7) After completion of the effect

The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

[Reverse, strobe, mosaic, and paint effects*]

It is possible to apply these *digital effects* to the signal selected on the PRESET/KEY bus.

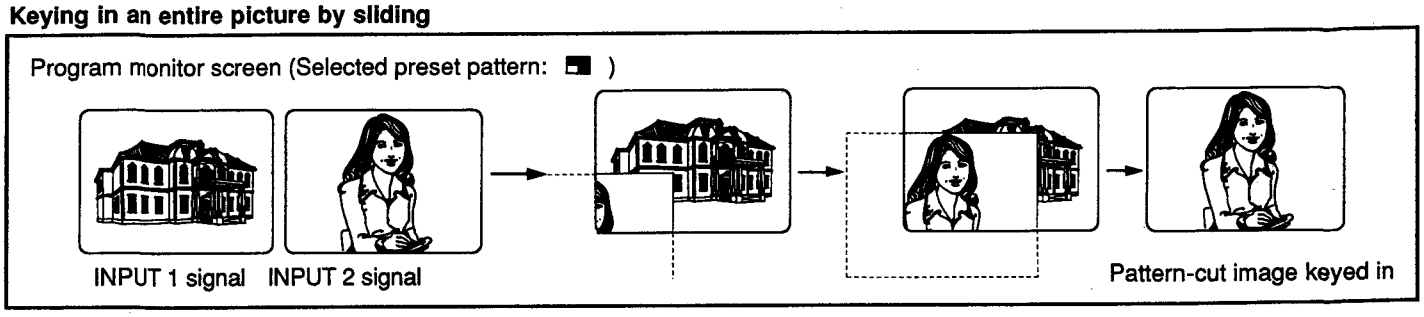
[Operation of bus select buttons]

Flip-flop operation* does not take place.

*** Reference pages for related information**

- Wipe pattern selection (page 40)
- Setting the transition time (page 40)
- *Reverse, strobe, mosaic and paint effects* (page 41)
- Flip-flop operation (page 20)

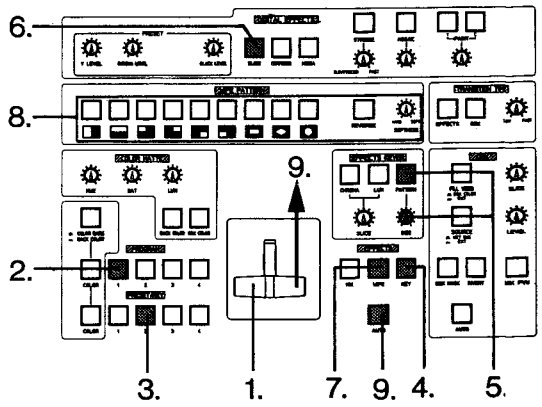
Keying in an entire picture by sliding



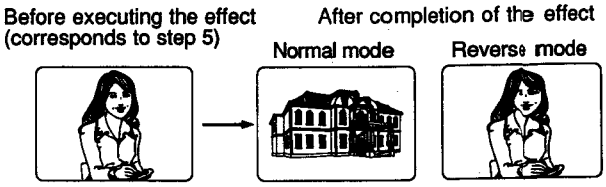
- In the following example, the signal on INPUT 2 is keyed into the signal on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the PATTERN button with the SIZE control turned fully clockwise.
6. Press the SLIDE button.
7. The WIPE button will light automatically.
   (The MIX button cannot be engaged.)
8. Select a wipe pattern with the corresponding WIPE PATTERN button.*
   (, , and cannot be selected.)
9. Manual switching:
   Move the fader lever up; keying in will take place in relation to the movement of the lever. To return to the normal INPUT 1 picture, move the lever in the opposite direction.
   Automatic switching:
   Press the AUTO button; keying in will take place within the preset time*. Press again to return to the INPUT 1 picture; keying out will take place within the same time.



[Preview monitor screen]



The preview monitor displays the result of the effect only before the SLIDE button is pressed in step 6. It is not possible to confirm the preview signal after the SLIDE button has been pressed. Check the preview monitor before pressing the SLIDE button (when the button's light is off.)

[Reverse, strobe, mosaic, and paint effects*]

It is possible to apply these *digital effects* to the signal selected on the PRESET/KEY bus.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

[Sliding direction in keying out]

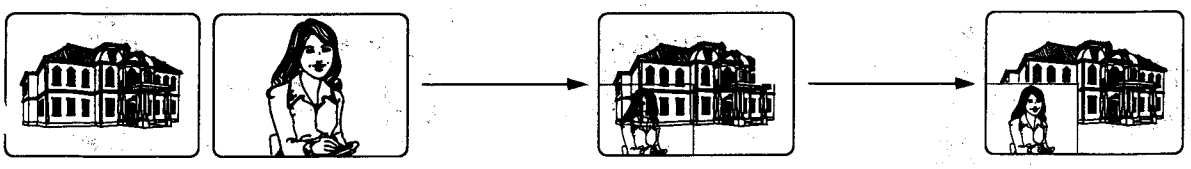
The same direction is maintained in keying in and out. Therefore, if the keyed-in picture slides in from the lower left corner as in the example shown, it will slide out to the upper right corner. To slide it out in the opposite direction (to the lower left corner in the example), press the REVERSE button after the entire picture has been keyed in.

*** Reference pages for related information**

- Wipe pattern selection (page 40)
- Setting the transition time (page 40)
- *Reverse, strobe, mosaic and paint effects* (page 41)
- Flip-flop operation (page 20)

Keying in a digitally compressed picture by mixing

Program monitor screen (Selected preset pattern: ▬)

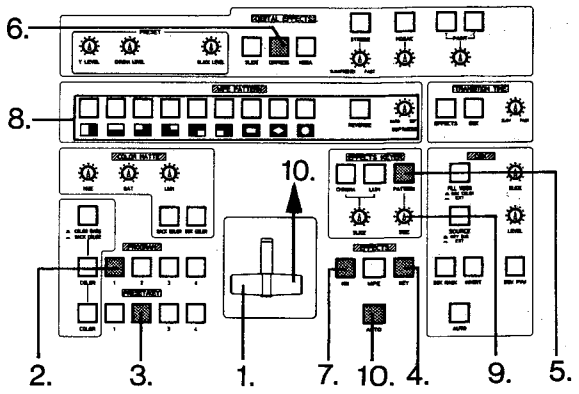


INPUT 1 signal INPUT 2 signal Compressed picture keyed in

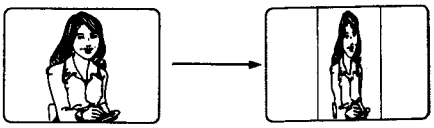
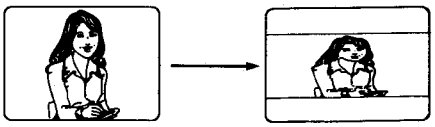
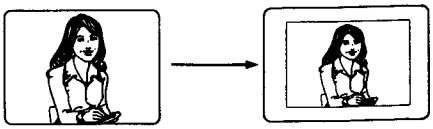
- In the following example, the signal on INPUT 2 is keyed into the signal on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the PATTERN button.
6. Press the COMPRESS button.
   The PATTERN button will blink, indicating that the compression ratio can be varied using the SIZE control.
7. Press the MIX button.
8. Select a desired compress pattern with the WIPE PATTERN button.
   See the column on the right.
9. Adjust the size of the keyed-in picture with the SIZE control while referring to the preview monitor.
10. Manual switching:
    Move the fader lever up; keying in will take place in relation to the movement of the lever. To return to the normal INPUT 1 picture, move the lever in the opposite direction.
    Automatic switching:
    Press the AUTO button; keying in will take place within the preset time*. To return to the normal INPUT 1 picture, press the button again; keying out will take place within the same preset time.

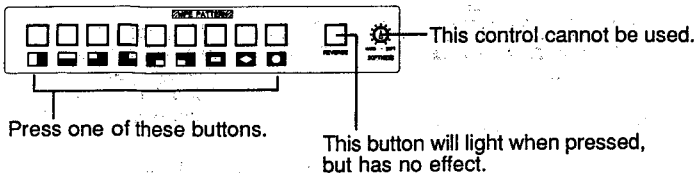


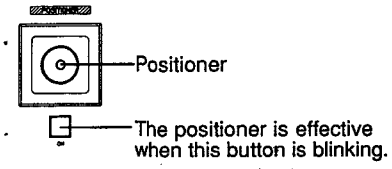
[Compress patterns]

◨	The picture is compressed horizontally. It can be moved right or left with the POSITIONER controls. 
⬓	The picture is compressed vertically. It can be moved up or down with the POSITIONER controls. 
	With other patterns selected, the picture is proportionally compressed. If ▭ , ◱ , or ◘ is selected, the picture can be positioned at any location with the POSITIONER controls. These three patterns produce the same result. 

*** Reference pages for related information** • Setting the transition time (page 40)

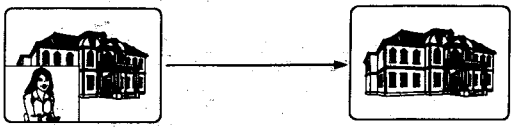
[Selecting a compress pattern]





[Preview monitor screen]

Before executing the effect (corresponds to step 9) — After completion of the effect



The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

[Reverse, strobe, mosaic, and paint effects*]

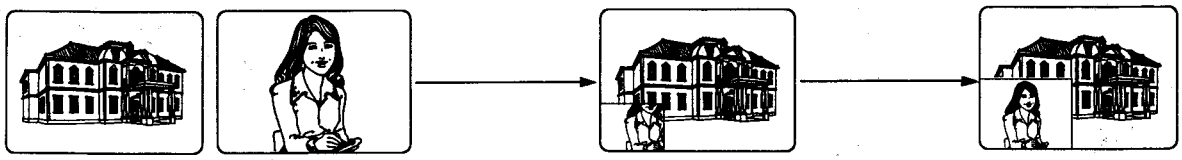
It is possible to apply these *digital effects* to the signal selected on the PRESET/KEY bus.

[Operation of bus select buttons]

Flip-flop operation* does not take place.

Keying in a digitally compressed picture by wiping

Program monitor screen (Selected preset pattern: ■)



INPUT 1 signal INPUT 2 signal — Compressed picture keyed in

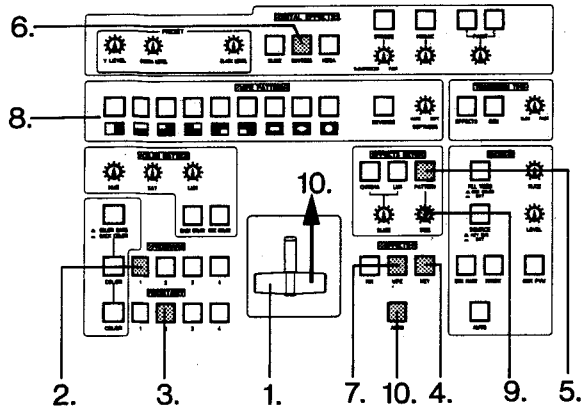
- In the following example the signal on INPUT 2 is keyed into the signal on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

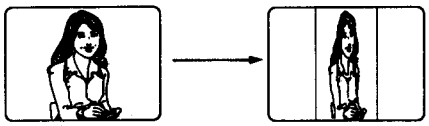
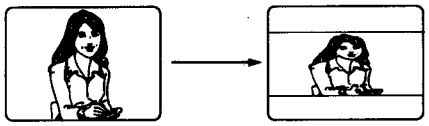
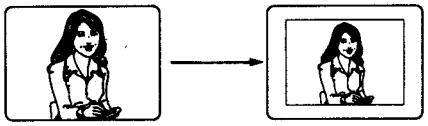
1. Set the fader lever to the bottom.
2. Select INPUT 1 on the PROGRAM bus.
3. Select INPUT 2 on the PRESET/KEY bus.
4. Press the KEY button.
5. Press the PATTERN button.
6. Press the COMPRESS button.
   The PATTERN button will blink, indicating that the compression ratio can be varied using the SIZE control.
7. Press the WIPE button.
8. Select a desired compress pattern with the WIPE PATTERN button.
   See the next page.
9. Adjust the size of the keyed-in picture with the SIZE control while referring to the preview monitor.
   If the reverse mode has been selected for the wipe pattern in step 8, it is not possible to check the preview signal. Cancel the reverse mode for checking.
10. Manual switching:
    Move the fader lever up; keying in will take place in relation to the movement of the lever. To return to the normal INPUT 1 picture, move the lever in the opposite direction.
    Automatic switching:
    Press the AUTO button; keying in will take place within the preset time*. To return to the normal INPUT 1 picture, press the button again; keying out will take place within the same preset time.

*** Reference pages for related information**

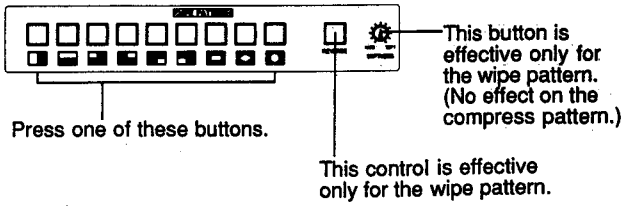
- Setting the transition time (page 40)
- *Reverse, strobe, mosaic and paint effects* (page 41)
- Flip-flop operation (page 20)

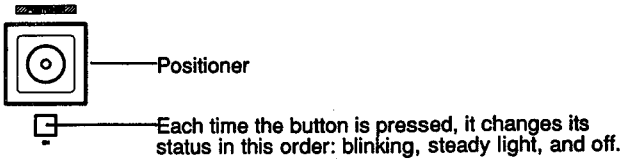


[Compress patterns]

◨	The picture is compressed horizontally. It can be moved right or left with the POSITIONER controls. 
▬	The picture is compressed vertically. It can be moved up or down with the POSITIONER controls. 
	With other patterns selected, the picture is proportionally compressed. If ◘ , ◘ or ◘ is selected, the picture can be positioned at any location with the POSITIONER controls. These three patterns produce the same result. 

[Selecting a compress pattern]


This button is effective only for the wipe pattern. (No effect on the compress pattern.)
Press one of these buttons.
This control is effective only for the wipe pattern.



Blinking: The positioner is effective for the compress pattern (if ◨ , ▬ , ◘ , ◘ , or ◘ is selected).

Steady light: The positioner is effective for both the compress and wipe patterns (if ◘ , ◘ , or ◘ is selected).

Light off: The positioner has no effect.

The next page describes one specific application of the positioner for your reference.

[Preview monitor screen]

Before executing the effect (corresponds to step 9) — After completion of the effect

The preview monitor displays the result of the effect before the effect is executed. (The process in-between is not displayed.)

Note
In the reverse mode, the preview monitor does not display the result of the effect. To check the preview signal, cancel the reverse mode.

[Reverse, strobe, mosaic, and paint effects*]
It is possible to apply these *digital effects* to the signal selected on the PRESET/KEY bus.

[Operation of bus select buttons]
Flip-flop operation* does not take place.

*** Reference pages for related information**
- *Mosaic, reverse, strobe, and paint effects* (page 41)
- Flip-flop operation (page 20)

Using the POSITIONER controls

The keyed-in digitally compressed picture can be moved to any location with the positioner.

Program monitor screen (Selected preset pattern: ◘)

INPUT 1 signal INPUT 2 signal

Keyed-in picture located at different positions

- In the following example, the signal on INPUT 2 is keyed into the signal on INPUT 1.
- In this example, the fader lever is moved from down to up. Moving the lever from up to down produces the same effect.
- The control panel's initial settings when the power is switched on are referred to.

[Operation]

Follow the steps below after completing step 7 on page 36.

8. Select a compress pattern.
   Select from among these three: ◘ , ◘ , and ◘ .

9. Move the fader lever fully up.
   Keying will be completed.

10. Adjust the compression ratio with the SIZE control while referring to the program monitor.
    The compress pattern is the same with any of the three patterns selected. Proportional compression is applied as illustrated on the right. ◘◘◘

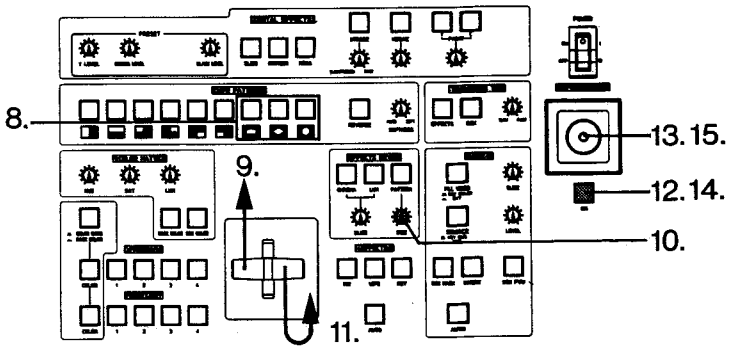
11. Move the fader lever fully down and adjust the size of the wipe pattern by gradually moving the fader lever. (Check on the program monitor.)

12. Press the POSITIONER button once.
    The button will blink.

13. Adjust the location of the compressed image within the wipe pattern with the POSITIONER joystick. (Check on the program monitor.) The wipe pattern itself will not move.

14. Press the POSITIONER button once again.
    The button's light will be steady.

15. Adjust the location of the wipe pattern with the POSITIONER joystick. The inside image will follow the wipe pattern. (Check on the program monitor.)



Program monitor

10. Compressed with the SIZE control.

11. Positioned with the fader lever.

13. Inside image positioned with the POSITIONER joystick.

15. Positioned with the POSITIONER joystick.

[Reverse, strobe, mosaic, and paint effects*]

It is possible to apply these *digital effects* to the compressed picture.

[Softness effect*]

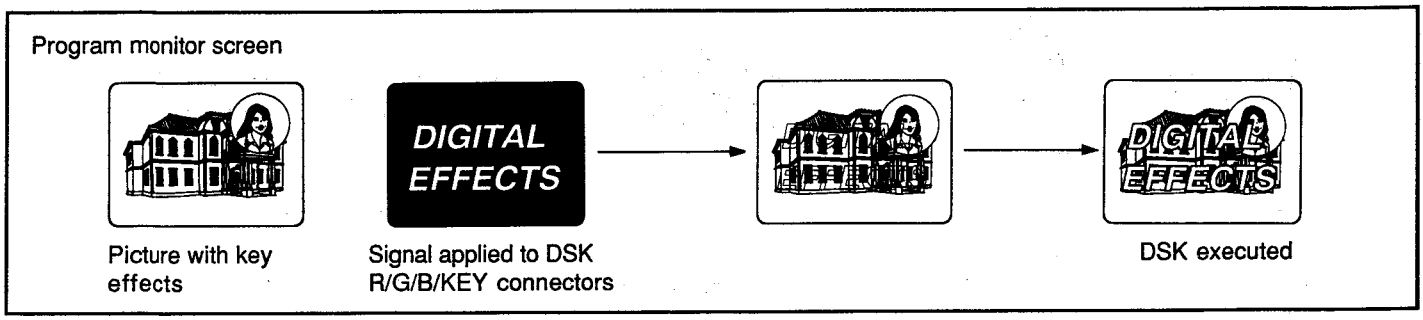
The wipe pattern can be made softer or sharper with the SOFTNESS control.

*** Reference pages for related information**

- *Reverse, strobe, mosaic and paint effects* (page 41)
- Softness effect (page 40)

DSK (DOWNSTREAM KEYER) TITLING

DSK is a key applied immediately before the program signal is output from the PGM OUT connector. The KM-D600 is capable of adding this key effect to a program signal already composed of background or key effects.



[Operation]

1. Press the DSK PVW button with the SLICE control turned fully counterclockwise.
   The preview monitor displays the signal selected on the PROGRAM bus.

Note
If a digital effect (slide or compress) is applied together with a background or key effect, the preview monitor displays the signal processed with these effects or the signal selected on the PRESET/KEY bus. This is not a malfunction.

2. Select a key source with the SOURCE button.
   KEY BUS (light on): To use the luminance signal (Y) of the input signal selected on the PRESET/KEY bus. (Cannot be selected if the luminance key is already applied to the program signal.)
   EXT (light off): To use the luminance signal (Y) of the video signal input to the DSK KEY connector.

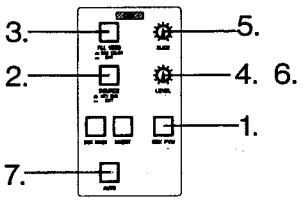
3. Select a fill video signal with the FILL VIDEO button.
   DSK COLOR (light on): To use the DSK color preset by the COLOR MATTE controls as the fill video signal.
   EXT (light off): To use the video signal produced by the R/G/B signals input to the DSK R/G/B INPUT connectors.

4. Turn the LEVEL control fully clockwise.

5. Adjust the SLICE control while referring to the preview monitor so that the title appears as intended.

6. Adjust the mixing level of the title with the LEVEL control.

7. Press the AUTO button. (The button will blink.)
   The title will appear on the program monitor within the preset time*. Press this button to switch off the title within the same preset time.



[Masking]

It is possible to mask the area where keying should not take place with a wipe pattern. This effect is not available while the PATTERN button in the EFFECTS KEYER section is lit or blinking.

- To obtain this effect, follow the steps below before pressing the AUTO button in step 7 above.

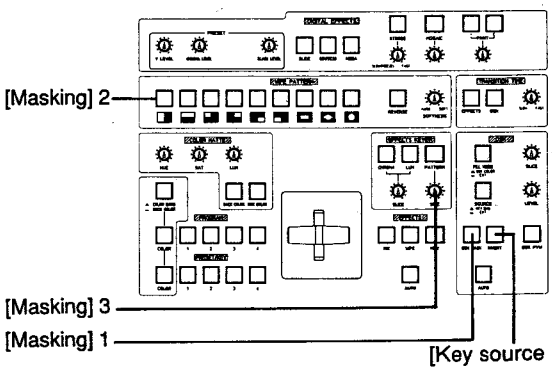
(1) Press the DSK MASK button. (The button lights.)
(2) Select a masking pattern with the corresponding WIPE PATTERN button.*
(3) Set the size of the pattern with the SIZE control.

[Key source inversion]

Take advantage of this function when keying in lettering or graphics written in black on a white background.

- To obtain this effect, follow the step below before adjusting the SLICE control in step 5 above.

(1) Press the INVERT button. (The button lights.)



Note
Internal switching allows the signal input to the DSK R/G/B INPUT connectors to be used as the key source when the EXT mode is selected. For this modification, consult an authorized JVC service agent.

*** Reference pages for related information**

- Setting the transition time (page 40)
- Wipe pattern selection (page 40)
- Setting DSK colors (page 41)

WIPE PATTERN SELECTION AND SOFTNESS EFFECT

The following procedure applies when a wipe pattern is selected for the following effects.

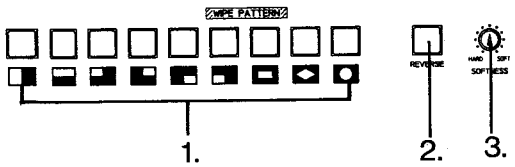
① *Background effects* by wiping
② *Background effects* by sliding
③ *Keying effects* by wiping
④ *Keying effects* by sliding
⑤ DSK masking
⑥ *Keying effects* masking

[Procedure]

1. Press the button above the desired wipe pattern symbol. The button will light.

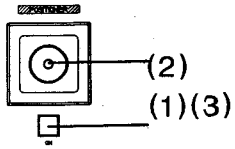
2. Select the direction of pattern movement with the REVERSE button.
   Normal mode (light off): The wipe pattern moves in the direction in which the white area increases.
   Reverse mode (light on): The wipe pattern moves in the direction in which the black area increases.

3. Adjust the sharpness of the wipe pattern edge with the SOFTNESS control.
   Turning it toward the SOFT position increases the degree of softness. When it is turned fully to the HARD position, the softness effect is cancelled.
   (This control is effective for applications ①and ③ above.



[Positioner]

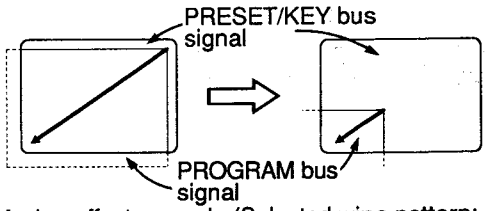
When ■ , ■ , or ■ is selected in applications ①, ③, ⑤ and ⑥, the wipe pattern can be positioned at any location.
(1) Press the positioner ON button. (The button is lights.)
(2) Move the wipe pattern with the POSITIONER joystick.
(3) When the ON button is pressed again, the positioner function is cancelled, and the wipe pattern returns to the center position.



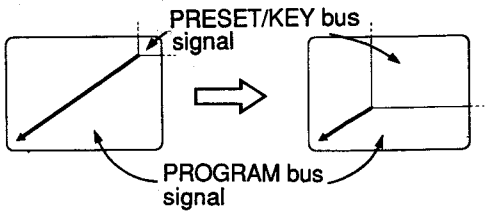
[Reverse mode in sliding]

When sliding is performed in the reverse mode with one of the corner wipe patterns selected (■ , ■ , ■ or ■), the picture changes as illustrated below.

- Background effect example (Selected wipe pattern: ■)
  The PROGRAM bus signal slides out and the PRESET/KEY bus signal appears.



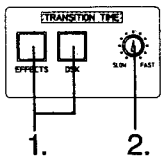
- Keying effect example (Selected wipe pattern: ■)
  The PRESET/KEY bus signal slides in.



SETTING THE TRANSITION TIME

The automatic switching transition time can be set as required for all effects: *background, keying* and *DSK effects.*

1. Select the effect mode for automatic switching with the corresponding button.
   EFFECTS: For *background* and *keying effects.*
   DSK: For *DSK effects.*
2. Turn the control to set the desired transition time.
   Fully turned to FAST: 0 second (instant switching for a cut-in)
   Fully turned to SLOW: 20 seconds
   Center position: approx. 3 or 4 seconds.



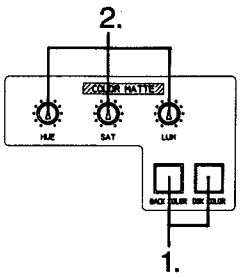
Note
For combined applications of the background and digital compress effects, possible time settings are from ◑ to 1.2 seconds.

ADJUSTING COLOR SIGNALS

The color signal can be adjusted when the background color is selected on either bus, or when the DSK color is selected as a fill video signal in DSK effects.

1. Select the item for which the color signal is to be preset by pressing one of the following buttons.
   BACK COLOR: To set the BACK COLOR selected on either bus.
   DSK COLOR: To set the DSK color.

2. Adjust the color tone with the three controls.
   HUE: Hue control
   SAT: Saturation (color density) control
   LUM: Luminance (brightness) control



REVERSE, STROBE, MOSAIC, AND PAINT EFFECTS

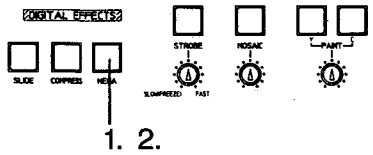
These effects can be used together with *background* and *keying effects*. First master the operations for *background* and *keying effects*, and then use these *digital effects*.

[Reverse (negative) effect]

Both the luminance and chroma signals are reversed simultaneously.

1. Press the NEGA button. (The button is lit.)
   The picture reverses to negative.

2. Press again to cancel the effect. (The light goes out.)



Negative picture

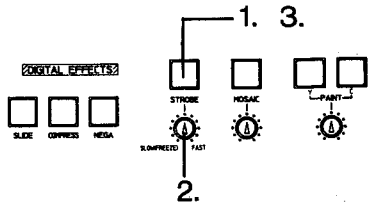
[Strobe effect]

Freezing on/off is performed automatically with intervals preset by the control under the button.

1. Press the STROBE button. (The button is lit.)
   The strobe mode is engaged.

2. Set the desired freeze on/off interval with the control.
   Fully turned to SLOW (FREEZE): Still picture
   Fully turned to FAST: Normal picture
   In-between, the interval can be shortened or increased in 8 steps.

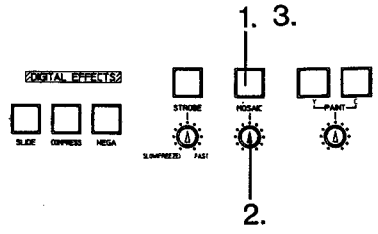
3. Press the STROBE button once again to cancel the effect.



[Mosaic effect]

This effect results from coarsening the digital texture in both horizontal and vertical directions.

1. Press the MOSAIC button. (The button is lit.)
   The mosaic mode is engaged.
2. Adjust the texture with the control under the button.
   Texture is adjustable in 16 steps. Turning it clockwise makes the grid coarser.
3. Press the button once again to cancel the effect.



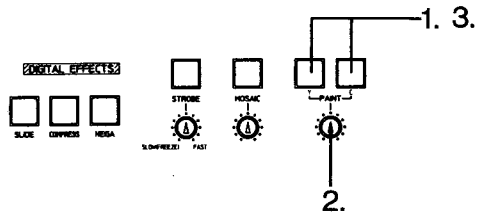
[*Paint effect*]

This effect results from coarsening the signal texture, either the luminance or chroma, or both together, to create an image which looks as if it has been painted with a brush. The effect of applying the paint effect to both the luminance and chroma signals is referred to as "posterization".

1. Press the signal for painting.
   PAINT Y (light on): Luminance signal
   PAINT C (light on): Chroma signal
   Both (both on): Posterization

2. Adjust the texture with the control under the button.
   Texture is adjustable in 8 steps. Turning it clockwise makes the texture coarser. The preset texture is held in memory for each selected signal.

3. Press the corresponding button once again to cancel the effect.



MASKING

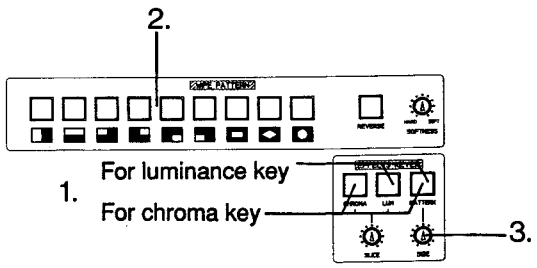
With keying effects applied, it is possible to use a wipe pattern to mask the area where keying should not take place. Take advantage of this function when satisfactory keying in of titles or persons is difficult due to irregular lighting or color problems. Keying of the unsatisfactory portion can be prevented by covering it with a wipe pattern.

This masking function can be used for luminance and chroma keys, but not for pattern keys or with digital slide and compress effects.

1. For luminance keys:
   Before switching the effect on, press the LUM and PATTERN buttons simultaneously.
   For chroma keys:
   Before switching the effect on, press the CHROMA and PATTERN buttons simultaneously.

2. Select a wipe pattern for masking.
   See page 40.

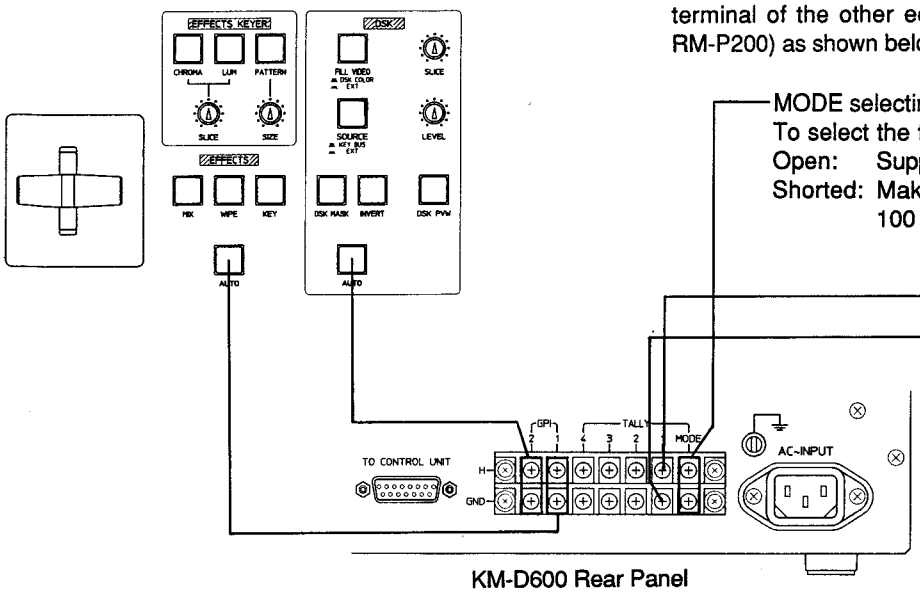
3. Adjust the masking size with the SIZE control.



OTHER FUNCTIONS

GPI (General Purpose Interface) connections

Connect switches to these terminals to remote control KM-D600 effects. These switches function in the same way as the buttons on the control unit of the KM-D600.

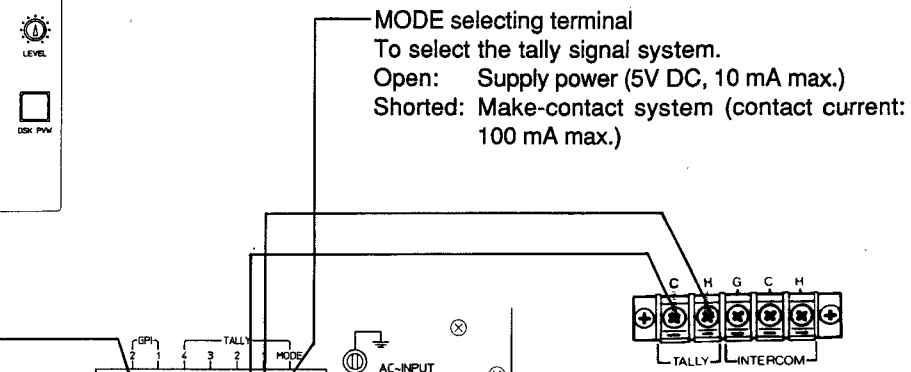


KM-D600 Rear Panel

TALLY connections

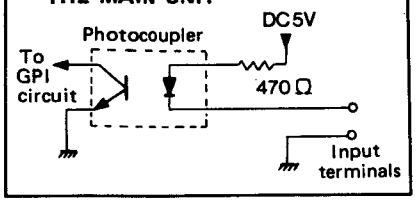
In a video system using more than one camera, it is necessary to indicate the on-air camera to the camera operators and actors. This function is performed by the tally signal.

- Connect the TALLY connector on the rear panel to the Tally terminal of the other equipment (for example the optional RM-P200) as shown below.



Rear panel of the optional remote control unit RM-P200 (factory-preset to the power input system)

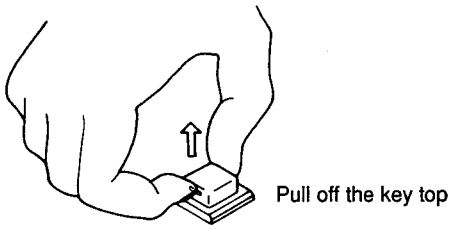
REPERENCE: INPUT CIRCUIT OF THE MAIN UNIT

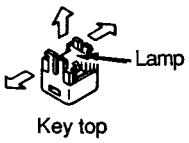


Use a non-locking switch with chattering of less than 10 ms. If chattering exceeds 10 ms, it will result in a malfunction.

Replacing lamps

If a lamp in any of the bus line or wipe select pushbutton switches, etc. does not light, replace it with the spare lamp as follows:





Key top

Pull out the lamp from the key top, then insert a new lamp.

SPECIFICATIONS

INPUT SIGNALS

Video Inputs:	Y/C 443: 4 inputs, Y = 1 Vp-p (with Sync) C = 0.3 Vp-p (Burst level), 75 ohms (7-pin x 4) VBS: 4 inputs, 1 Vp-p, 75 ohms (BNC x 4)
Genlock Inputs:	BB: 0.45 Vp-p, 75 ohms or high impedance (BNC x 2)
Chroma Key Inputs:	RGB: 0.7 Vp-p, 75 ohms (BNC x 3)
DSK Key Input:	VS or VBS: 0.7/1 Vp-p, 75 ohms (BNC x 1)
DSK Fill Inputs:	RGB: 0.7 Vp-p, 75 ohms (BNC x 3)
DOC:	0.2 to 1 Vp-p, 75 ohms (BNC x 2)
GPI:	Dry contact (Terminal)

OUTPUT SIGNALS

Program Outputs:	Y/C 443: 2 outputs, Y = 1 Vp-p (with Sync) C = 0.3 Vp-p (Burst level), 75 ohms (7-pin x 2) Y/C924: Y=0.5 Vp-p (with sync) C=0.5 Vp-p (Chroma level), 75 ohms (Switchable with Y/C443 output 1)
Preview Output:	Y/C 443: Y = 1 Vp-p (with Sync) C = 0.3 Vp-p (Burst level), 75 ohms (7-pin x 1)
Program VBS Output:	1 Vp-p, 75 ohms (BNC x 1)
Preview VBS Output:	1 Vp-p, 75 ohms (BNC x 1)
Tally Output:	+5 V or dry contact (Terminal)

SYNC OUTPUT SIGNALS

BB:	0.45 Vp-p, 75 ohms (BNC x 2)
HD:	4 Vp-p, 75 ohms (BNC x 1)
VD:	4 Vp-p, 75 ohms (BNC x 1)
REF Sync:	4 Vp-p, 75 ohms (BNC x 1)
ADV Sync:	4 Vp-p, 75 ohms (BNC x 2)

PERFORMANCE

Frequency Response:	60 Hz to 5 MHz (+0.5 dB, –3 dB)
S/N Ratio:	More than 55 dB (P-P/RMS)
Y/C Timing:	Less than 50 nsec.
Power Consumption:	Main unit, 70W Control unit, 12W
Power Supply:	220/240V AC, 50/60 Hz
Ambient Temperature Range:	5°C to 40°C (40°F to 104°F)
Weight:	Main unit, 13.6kg Control unit, 4.5kg

ACCESSORIES

Cable Assembly:		SCV1408-10M, 10 m/32 f, 1 pc.
Termination Plug:		SCV0286-001, 1 pc.
Power Cord:	EA type:	SCV0420-2M5, 2 pcs.
	EK type:	SCV0419-2M5, 2 pcs.
	EG type:	QMP4908-250, 2 pcs.
Lamp Assembly:		SCV0302-100, 1 pc.
Side Bracket:		SC20456-00A, 2 pcs.
Screw:		SDSP3012, M3 x 12, 4 pcs.